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TRAVELS,  
OR  
OBSERVATIONS,  
RELATING TO  
*SEVERAL PARTS*  
OF  
B A R B A R Y  
AND  
*The Levant.*

ILLUSTRATED WITH COPPERPLATES.

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By THOMAS SHAW, D. D. F. R. S.  
VICAR OF BRAMLEY, REGIUS PROFESSOR OF GREEK, AND  
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UNIVERSITY OF OXFORD.

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THE THIRD EDITION, CORRECTED,  
WITH  
SOME ACCOUNT OF THE AUTHOR.

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IN TWO VOLUMES.

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VOLUME II.

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\* These measures, taken by Pere Siccard, were given me by Dr Mead, and are intended to illustrate note †, vol. ii. p. 208.

† Vid. *Memoires des Messions*, vol. vii. p. 64.

‡ The Rev. Dr Lisle, Fellow of Magdalen College, Oxford, favoured me with this account.



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TRA-

\* This short journal I copied out of Mr Greaves' pocket-book, that is deposited in the Savil study, and serves to prove what regards the Weather, Obs. vol. ii. p. 214.

TRAVELS  
OR  
OBSERVATIONS  
RELATING TO  
*SEVERAL PARTS*  
OF THE  
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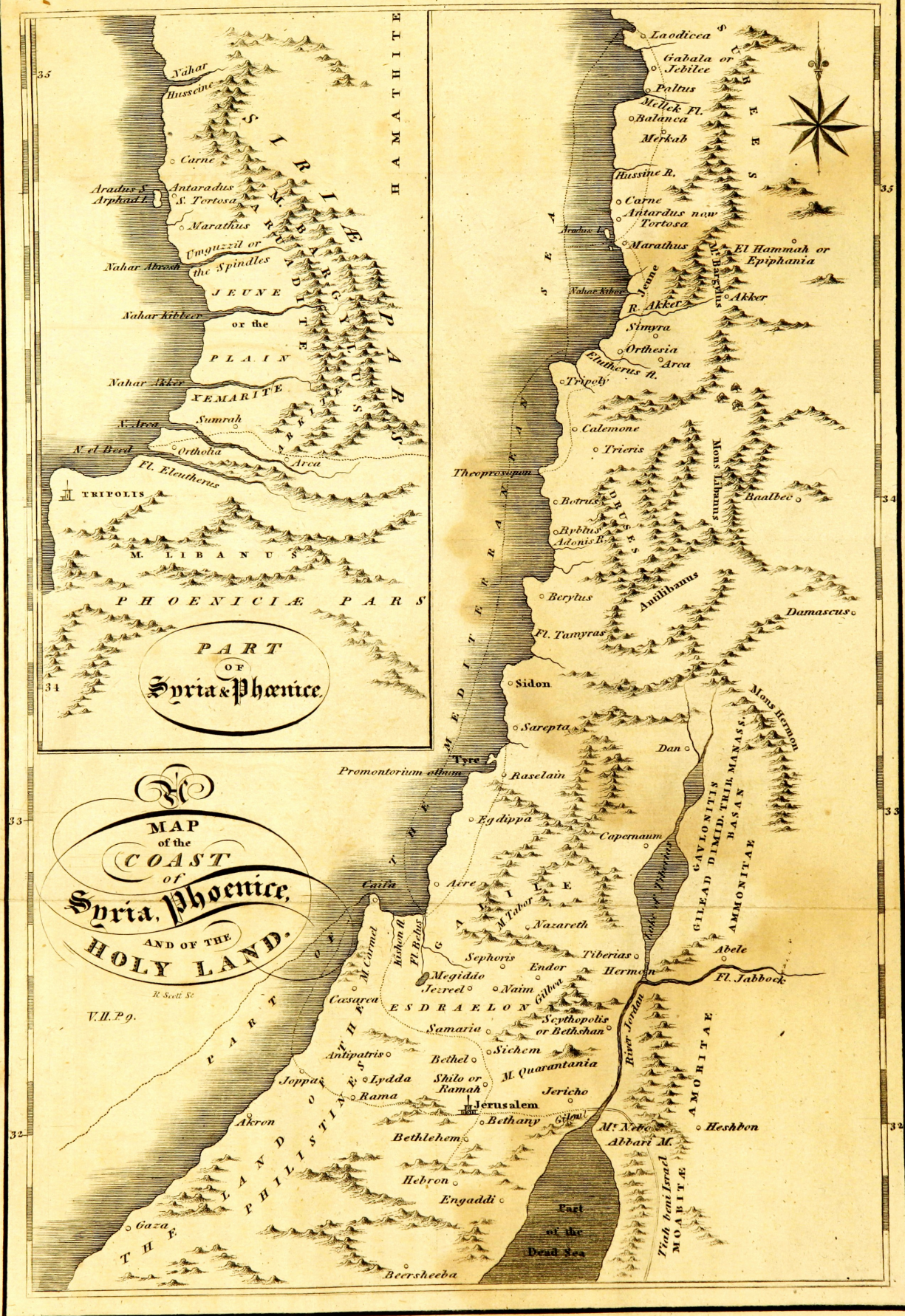
IN TWO PARTS.

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VOLUME II.—PART I.











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## CHAPTER I.

### *Geographical Observations relating to some Parts of Syria, Phœnice, and the Holy Land.*

I AM now entering upon those countries, where Mr Maundrell has travelled before me; and, as it may be presumed that every curious person is acquainted with that author, I shall only take notice of such things as seem to have been either mistaken or omitted by him.

Latikea, then, the first maritime city which he describes, was also the most northern part of Syria that I had an opportunity of seeing. It is situated upon a rising ground, with a full prospect of the sea, and was called by the ancients *Laodicea ad mare*\*, and Λευκα Ακτη, from the white cliffs that lie on each side of it. From the citadel, we have a pleasant, though distant view of the mountains of Caramania and Cassius to the north; and of Jebilee, Merkab, Bannias; as far as Tortosa, to the south. The founder could not

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have

\* Εἶτα Λαοδικεία, ἐπὶ τῇ θαλαττῇ καλλιγὰ ἐκτισμένη καὶ εὐλιμένος πόλις, χωρὸν τι ἔχουσα πολυοῖνον πρὸς τὴν ἄλλην εὐκαρτίαν. Strab. Geog. l. xvi. p. 1091. Exclusus ab Antiochia Dolabella—Laodiceam, quæ est in Syria ad mare, se contulit. Cic. Epist. l. xii. ep. 14.

Λαοδικην δ' ἢ κείται ἐπ' ἡμισσοὶ θαλάσσης.

Dionys. Perieg. ver. 915.

have pitched upon a more agreeable situation, affording, at the same time, both delight and security.

Here are still remaining several rows of porphyry, and granate pillars; with a large fragment of an aqueduct, the same perhaps that Josephus\* informs us, was built by Herod. It is a massy structure without arches, and stretches towards the S. E. But the chief surviving monument of the ancient grandeur and magnificence of this place, is a large triumphal arch of the Corinthian order, now converted into a mosque. The architrave is adorned with trophies, shields, battle-axes, and other military weapons; whilst the rest of the entablature is exceedingly bold and sumptuous. We see, dispersed all over these ruins, several fragments both of Greek and Latin inscriptions, but all of them are entirely defaced.

A furlong to the westward are the ruins of a beautiful cothon, in figure like an amphitheatre, and capacious enough to receive the whole British navy. The mouth of it, which opens to the westward, is about forty feet wide, and defended by a small fort. The whole appears to have been a work and structure of great labour and design, though at present it is so much filled up with sand and pebbles, that half a dozen small vessels can only be admitted. The like accidents, arising chiefly from the large billows that attend the westerly storms, and bring along with them  
great

\* Λαοδικεῦσι δὲ τοῖς παραλίοις, ὑδατὶν ὑπαγωγὴν—αὐθιχὴ. Jos. de Bell. Jud. l. i. c. 16.

great quantities of sand raised from the bottom of the adjacent shore, have entirely filled up the cothon of Jebilee; that a little to the northward of Tortosa, those of Rou-wadde, Tripoly, Tyre, Acre, and Jaffa. At all these places, we cannot sufficiently admire the great industry and contrivance of the ancients, in making such safe and convenient stations for vessels; at the same time, we must have the utmost contempt for their later masters, who out of avarice, or want of public spirit, have suffered them to become either altogether useless, or else of very little service to the trade and navigation of this rich and plentiful country.

About two furlongs to the northward of the city, near the sea shore, there are several *sarcophagi*, which are generally of an oblong square shape, though larger than those that are commonly found in Italy. They are, most of them, adorned with several beautiful decorations in shells and foliage, or else with busts of men and women, ox-heads and satyrs; besides others that are panelled, having moreover their covers supported by pilasters of the Ionic and Corinthian orders. They are each of one stone; some of which have their covers, or opercula, still remaining, and might be what were called formerly monubiles or monolithi\*.

The rocky ground where we find these sarcophagi, is hollowed below into a number of cryptæ, or *sepulchral chambers*, some ten, others twenty  
or

\* Vid. Itinerar. Hierosolym. cum notis Wesseling, p. 595.

or thirty feet square ; but the height is low, and never proportionable. The ingenious architect has left upon the front and the side walls of the stair-cases, which lead us down to them, several curious designs in sculpture and basso relievo, like those upon the sarcophagi. A range of narrow cells, wide enough to receive one coffin, *sarcophagus*, or *κλινη*, and long enough sometimes for two or three, runs along the sides of most of these sepulchral chambers, and appear to be the only provision that was made, provided indeed they were only made for the reception of the dead.

The Greeks have one of these cryptæ in great esteem and veneration. They call it St Teckla, in commemoration of some acts of penance and mortification that are said to have been here performed by that first virgin martyr. In the middle of it there is a fountain, supposed to be instrumental in producing miraculous visions and extraordinary cures. For hither they bring such persons or children as have the rickets, jaundice, or other distempers ; and, after they have washed them with *holy water*, and perfumed them, they return with a strong faith in a speedy cure. Here likewise the aged and the infirm pretend to receive the warnings of their approaching dissolutions ; whilst the young foresee a long train of circumstances and events that are to fall out in the future course of their lives.

The sepulchral chambers near Jebilee, Tortosa, and the Serpent Fountain, together with those  
that

that are commonly called the Royal Sepulchres at Jerusalem, (all of them communicating with one another by small narrow entrances), are of the like workmanship and contrivance with the cryptæ of Latikea; as were likewise, in all probability, the cave of Machpelah, and the other sepulchres, which appear to have been many, of the sons of Heth, Gen. xxiii. 6. An ancient sarcophagus still remains in one of the sepulchral chambers of Jerusalem, which is of a Parian-like marble, in the fashion of a common round lidded trunk, all over very elegantly carved with flowers, fruit, and foliage. Instead likewise of those long narrow cells that are common in most of the other cryptæ, some of these are single chambers, others have benches of stone ranged one over another, upon which the coffins were to be placed. To these we may join the sepulchre, where our Saviour was laid, which was also hewn out of the natural rock, Matt. xxvii. 60. and lay originally under ground, like the others; but by St Helena's cutting away the rock round about it, that the floor or bottom of it might be upon the same level with the rest of the pavement of the church, it is now a grotto above ground, μαρμαροπλακωμένη, or curiously overlaid with marble. It consists of one chamber only, without cells, benches or ornaments, being about seven feet square, and six high; and over the place where the body was laid (whether this was a pit, or whether the body lay bound up only in spices and linen upon the floor) here, for many years, an oblong table of stone or  
*thorus,*

*thorus*, ~~and~~ *scartior*, of three feet in breadth, and nearly of the same height, has been erected, which serves the Latins for an altar. The low narrow door or entrance where the stone was fixed and seated, till rolled away by the angel, still continues to conduct us within it; and as this was not situated in the middle, but on the left hand; as the grave likewise, or place where Christ was laid, may well be presumed to have been placed within it, on the right hand, or where ~~the~~ altar is at present, we may, from these circumstances, well account for Mary and John (John xx. 5. 11.) being obliged to stoop down, before they could look into it.

But the learned Salmasius\* has attempted to prove, that this sepulchre was not hewn out of the rock, but was built with square polished stones, in the fashion of a rounded arch, vault or cupola, (*specus*, sc. *cameratus et fornicatus erat*), with a hole upon the top (*cum foramine desuper*) through which the body was to be let down; which hole was afterwards to be covered with a great stone (*vice operculi*) instead of a lid. But such a hole, especially in such a situation, could with no propriety be called a door, or *θυρα*, as the entrance into this sepulchre is often named; neither could Peter and the women, without ladders, or such like assistances, have so easily gone in and out of it, as they seem to have done, Mark xvi. 5. &c. Neither will this learned author be the better supported in the other part of his position, viz. that *this sepulchre was not hewn out of the*

\* Plin. Exercit. p. 1207.



*the rock* (as we render *μνημειον ὁ κατασκευασθῆναι Ἰωσήφ ἐν τῇ πέτρᾳ*, Matt. xxvii. 60. and *μ. λαλατομημένοι ἐκ πέτρας*, Mark xv. 46. and *μ. λαξευτοῦ*, Luke xxiii. 53.) but that these words absolutely denote a sepulchre built with hewn square polished stones, or, in his words, *Monumentum lapide cæso, polito et quadrato structum*. Whereas the verb *κατασκευαίνω* can, by no means, be confined to such a construction; not signifying properly to build or to raise an edifice with stones, but only preparatory thereto (as *κατασκευασαὶ λίθους· ξυγὺς τῷ οἰκοδομῆσαι οἶκον τῷ Θεῷ*, 1 Chron. xxii. 2.) to cut stone, or to hew in stone; whether such stones were *אבנים* or *λίθοι*, single and moveable, or whether they were fixed and immoveable, such as *רצף* or *πέτρα*, always rendered *a rock*, may be supposed to be. And therefore, if we are to explain one Scripture phrase by another, *κατασκευαίνω ἐκ τῆς πέτρας*, or *ἐν τῇ πέτρᾳ τὸ μνημειον*, cannot be rendered *building a sepulchre with square moveable stones*, as is here pretended, but cutting or hewing it out of the *רצף*, *πέτρα*, or immoveable rock; as the house (Matt. vii. 24.) is said to be built *ἐπὶ τῇ πέτρᾳ*. For had this structure been made with hewn square polished stones, the term of art would have been different. It would not have been *κατασκευαίνω*, but *οικοδομῶναι*, *ποιεῖν*, or *λαξεύειν τὸ μνημειον ἐκ λίθων*, or *λίθους*, as might be illustrated from various authorities.

The sepulchre likewise of Lazarus, according to the same author, (*ibid.*) was of the like fashion and workmanship. But the evangelist John, xi. 38. in describing it to be *a cave*, seems to contradict his opinion; for *a cave*, *σπηλαιον*, or *spelunca*, is generally,

nerally; and perhaps always, taken for some hollow place under ground, either naturally such, or made so artificially; not by building it with adventitious stones, but by scouping away the natural rock, as in the sepulchre of our Saviour, and in the several caves, cryptæ, or *grottos* already taken notice of. The sepulchres likewise of the prophets, as they are now called, with many other caves that we meet with upon the Mount of Olives, in the very neighbourhood of that we are now speaking of, might all of them have either served, or have been originally designed for burying places, having their proper stones, or *opercula*, to lay upon them, or to shut them up. Here the dead bodies, especially of those of better fashion, after they were *bound up in linen clothes, with spices, as the manner of the Jews is to bury*, were to be laid, and the sepulchre to be shut up; as we find it was actually done to Lazarus, John xi. 38. 44. and would have been done to our Saviour, *was he to have been left in his sepulchre, and to have seen corruption.*

But, to proceed in our geographical inquiries, the greatest part of the country betwixt Latikea and Jébilee, is stony and mountainous; after which, we enter upon a most delightful plain, formerly the northern limit of the district of the Aradians\*. At the mouth of the river Melleck, six miles from Jebilee, along this plain, the sea forms itself into a small bay, where we have the  
ruins

\* Εἰς (sc. a Gabala) πρὸς τὴν Ἀραδίων παλαιὰ (παρελίου, Boch. Phal. l. iv. c. 36.) &c. Strab. l. xvi. p. 1093.

ruins of the ancient city, Paltus ; and a little to the E. N. E. there is a large subterraneous conduit, with a number of lesser ones detached from it ; which, spreading themselves for several furlongs through a low marshy ground, might have been some ancient drain, to render this place more fit for tillage.

Not far from the Melleck, are the ruins of Balanea, or Baneas, or *πανειας*, where the author of the *Jerusalem Itinerary*, and Hierocles in his *Synecdemus*, place the boundary betwixt Cœle-Syria and Phœnice. Seven leagues further, a little to the northward of Tortosa, are the traces of a cothon, with a small pottery by it. Here we are to look for the ancient Carne, as the cothon itself might be the *επιπλιον*, or *the dock* that \* Strabo tells us belonged to the Aradians. Betwixt the pottery and Tortosa, are the cryptæ that were mentioned above.

Tortosa has been generally mistaken for Orthosia, which lay a great way further to the southward, upon the confines of Syria and Phœnice. And though indeed Orthosia may seem to have an easy transition into Tortosa, yet considering there was formerly a large convent, and two very magnificent Christian churches at this place, Tortosa is rather to be received as a corruption of Deirdouse, i. e. *the place of a church*, or *convent*, as the inhabitants interpret it. And in no small conformity to this circumstance, we

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are

\* Καρνός το επιπλιον της Αραδου, λιμνιον εχον. Strab. lib. xvi. p. 1093.

are acquainted, that the first church erected to the honour of the blessed Virgin was at Tortosa \*. However, as it lies at no more than half a league's distance over against the ancient Aradus, there is no doubt but it must be the Antaradus of the old geography. This is confirmed by Phocas, in his *Description of Syria*, (apud L. Allatii Συμμετρησά) *Ανταράδα πρὸς τὴν Ταρτούσα*; and likewise by Willerm, of Tyre †. *Antaradus*, says he, *quæ vulgari appellatione Tortosa vocatur*. In the fourth century, (*viz.* about A. D. cccxxx.) it continued to be known by its old name, as appears from the *Itinerarium Hierosolymitanum*; which, with its other name Constantia ‡, given to it by its restorer Constantius, were disused some centuries afterwards, in, or perhaps before, the time of the Croisades. For thus we have it related by a poet of these times.

Non procul urbs aberat, ripæ vicina marinæ,  
Fertilitate sua promittens multa rapinæ,  
Nomine quæ celebris ipso Tortosa vocatur.

Guil. Paris. Exp. Hier.

The island Aradus, the Arpad of the Scriptures, the seat of the Arvadite or Aradite, is called at present Rou-wadde; which, with El Hammah, the ancient Hamath, the seat of the Hamathite,  
*lying*

\* In Tortosa fuit prima ecclesia quæ in honorem B. Virginis ædificata fuit. Vid. Willebr. ab Oldenburg. Itinerarium apud L. Allatii Συμμετρησά. p. 130.

† Itiner. l. vii. c. 17.

‡ Constantius Antaradum instauratum suo nomine donavit. Theoph. Chronogr. p. 31.

lying over against it, Ezek. xlvii. 29. ten leagues to the eastward, are the most northern settlements of the sons of Canaan. Mr Bedford, in his *Chronology*, has an ingenious conjecture, espoused by the Lord Bishop of Clogher (*Chronol.* p. 90.) that Ham, in the dispersion of mankind after the flood, entered the land of Canaan (as it was afterwards called) at the latter of these places; and from thence we find it so frequently called in Scripture *the entering in of Hamath*, לבֵּיא חֲמַת. This learned prelate supposes further, that Abraham likewise came into the same country, north about, as Canaan or Ham himself did before, by *the entering in of Hamath*. From the situation indeed either of Shinar or Haran, with respect to the land of Canaan, Ham, Canaan and Abraham might have taken this road as well as any other, or the more open one which Jacob took by Gilead and the Jordan, Gen xxxi. 21. and xxxii. 10.; yet there seems not to be the least authority for it from the original word בֵּיא (or לבֵּיא\* with the præfix) which signifies no more than barely *the going to*, or *until thou arrive or come at*; or *the entering in or into* such or such a place, without the least regard to what might have been transacted there by one or other of those patriarchs. As Hamath likewise lies about  
fifty

\* Thus לבֵּיא is as frequently joined in Scripture with צָרָרָה, אֶפְלָתָה, מִצְרַיִם, עֵיִל, פְּרָבְלָה, חֶפֶת; and may be presumed to have the same signification; viz. *the entering in*, &c. of Egypt, Ephrata, Adad, as among many others, Jer. xli. 17. *Chimham, which is by Bethlehem, as thou goest to enter into Egypt.*

fifty leagues to the S. S. W. of Haran, from whence Abraham departed with his father Terah, (Gen. xi. 31.) after he left Ur of the Chaldees, we may very well account for his *journeying*, as it is recorded, Gen. xii. 9. *going on still*, as we may presume, from his first setting out, *towards the south*, but by no means for his *going north about*; contrary to the respective situations of those places.

But, to return to Rou-wadde, the prospect of it from the continent, is wonderfully magnificent, promising at a distance a continued train of fine buildings, and imprènable fortifications. But this is entirely owing to the height and rockiness\* of its situation; for at present all the strength and beauty it can boast of, lies in a weak unfortified castle, with a few small cannon to defend it. Yet we are not to judge of the ancient strength of this place from its present condition. For it was formerly surrounded with a large strong wall, consisting of stones of an immense bigness, which, as in many other specimens of the ancient buildings, so exactly tallied and corresponded with each other, that the architect might very justly estimate the weight and symmetry alone of the materials, without cramps and mortar, to have been sufficient to withstand the violence of the sea, and the engines of an enemy. During the time of its prosperity, both art and nature seem to have conspired in making it

\* *Rou-wadde* or *Arpad* being probably derived from רִיד *fir*, *mus finit*, &c.

it a place of such strength and consequence as sufficiently to justify the boast, *Where is the king of Arpad?* which Sennacherib (2 Kings xix. 13.) made in the conquest of it.

The ancient Marathus may<sup>r</sup> be fixed at some ruins, near the Serpent Fountain, which make, with Rou-wadde and Tortosa, almost an equilateral triangle. For Strabo \* tells us, that Aradus was situated betwixt its Navale and Marathus, and that the opposite shore had not the least shelter for vessels. The latter of these observations is very just; and, provided the Navale is the Cothon, which has been already taken notice of to the northward of Tortosa, no place can better fall in with the situation of Marathus; in as much as Rou-wadde, upon this supposition, will lie not only between, but very nearly equidistant from the Navale or Marathus.

Five miles to the S.S.E. of the Serpent Fountain, are the Maguzzel, or *spindles*, as they call those pointed and cylindrical little buildings that are erected over the cryptæ, described by Mr Maundrell. The situation of the country round about them, has something in it so extravagant and peculiar to itself, that it can never fail to contribute an agreeable mixture of melancholy and delight to all who pass through it. The uncommon contrast and disposition of woods and sepulchres, rocks and grottos; the medley of sounds and echoes from birds and beasts, cascades and water-falls; the distant roaring of the  
sea,

\* Strab. Geogr. l. xvi.

sea, and the composed solemnity of the whole place, very naturally remind us of those beautiful descriptions which the ancient poets have left us of the groves and retreats of their rural deities.

A great plain, the Jeune, as the Arabs call it, commences a little to the southward of the Maguzzel, and ends at Sumrah; extending itself all the way from the sea to the eastward, sometimes five, sometimes six or seven leagues, till it is terminated by a long chain of mountains. These seem to be the Mons Bargylus of Pliny\*; as the Jeune may be the *Interjacentes Campi*, which he places to the northward of Mount Libanus. There are dispersed all over the Jeune, a great number of castles and watch-towers, erected perhaps as well for the safety and security of those who cultivated it, as to observe the motions of what enemy soever should at any time pitch upon it for a seat of action. These are pretty common in other places of Syria and Phœnice, and may be the same with the *watch-towers*, in contra-distinction to the *fenced cities*, as they are mentioned in Scripture.

Besides these towers, we see several large hillocks upon the Jeune, of the same figure, and raised undoubtedly upon the like occasion, with those eminences that we call *barrows* in England.

No

\* In ora subjecta Libano Berytus---Trieris, Calamus, Tripolis, quæ Tyrii et Sidonii et Aradii obtinent. Orthosia, Eleutheros flumen. Oppida Simyra, Marathos, contraque Aradum Antardus.---Regio, in qua supra dicti desinunt montes (Libanus sc.) et interjacentibus campis, Bargylus mons incipit. Hinc rursus Syria, desinente Phœnice, oppida Carne, Balanea, Paltos, Gabale; promontorium, in quo Laodicea libera. Plin. l. v. c. 20.



No place certainly can be better supplied with water and herbage; and consequently more proper, either for a field of battle, or where an army could more conveniently be encamped.

The most considerable river of the Jeune, is the Akker, so called from running by a city of that name, situated upon Mount Bargylus, about nine leagues to the S. E. of Tortosa. This must have been formerly as noted for its strength, extent, and beauty, as it is at present for the goodness and perfection of the apricots, peaches, nectarines, and other fruit which it produces. May not Akker be the Ker, i. e. *the city*, which is mentioned, Amos ix. 7. ? *Have not I brought up Israel out of the land of Egypt, and the Philistines from Caphtor, and Aram from Ker?* where the simple reading of Aram, without the distinction of Padan, or Naharaim, may induce us to believe that Ker was of Syria or Aram, properly so called, and not of Media or Mesopotamia, the Padan Aram and the Aram Naharaim of the Scriptures.

About five miles from the river Akker, and twenty-four to the S. S. E. of Tortosa, there are other considerable ruins, known by the name of Sumrah, with several rich plantations of mulberry and other fruit trees growing within and round about them. These, from the very name and situation, can be no other than the remains of the ancient Simyra or Taximyra, as Strabo\* calls it,

the

\* A corruption from the joining of τα Συμυρα or Συμυρα, as Casaubon has observed upon the place.

the seat formerly of the Zemarites. Pliny\* makes Simyra a city of Cœle-Syria, and acquaints us, that Mount Libanus ended there to the northward; but as Sumrah lies in the Jeune, two leagues distant from that mountain, this circumstance will better fall in with Arca, where Mount Libanus is remarkably broken off and discontinued.

Five miles from Sumrah to the E. are the ruins of Arca, the city of the Arkites, the offspring likewise of Canaan. It is built over against the northern extremity of Mount Libanus, in a most delightful situation, having a prospect to the northward of an extensive plain, diversified with an infinite variety of towers and villages, ponds and rivers; to the westward, it sees the sun set in the sea, and, to the eastward, sees the sun rise over a long and distant chain of mountains. Here likewise are not wanting Thebaic columns, and rich entablatures, to attest for the splendour and politeness that it was once possessed of. The citadel was erected upon the summit of an adjacent mount; which, by the figure and situation of it, must have been impregnable in former times. For it is shaped like a cone or sugar loaf, in an ascent of fifty or sixty degrees, and appears to have been originally intended for a *mons exploratorius*; not being a work of nature, but of art and labour. In the deep valley below, we have

a

\* A tergo ejus (Sidonis) Mons Libanus orsus, mille quingentis stadiis Simyram usque porrigitur, qua Cœle-Syria cognominatur. Plin. l. v. c. 20.

a brisk stream, more than sufficient for the necessities of the place; yet it has been judged more convenient to supply it with water from Mount Libanus. For which purpose, they have united the mountain to the city by an aqueduct, whose principal arch, though now broken down, could not have been less than a hundred feet in diameter. This city was not known to the learned editor of the *Itinerarium Hierosolymitanum*; 'qui ' Arcas explicet et illustret (says he, p. 582.) alius ' erit.'

Two leagues to the W.S.W. of Arca, we pass over the Nahar el Berd, the *cold river*, or, according to Mr Maundrell's interpretation, the *cold waters*. This stream arises from among the northern eminences of Mount Libanus; and swelling, at certain times of the summer, by the extraordinary liquefaction of the snow, might from thence have received its name. Here, I presume, we may fix the river Eleutherus, so much wanted in the old geography, which Sandys (p. 166.) and others after him, have made to be the same with the Cassimair, betwixt Sidon and Tyre. Whereas Ptolemy\* places it, according to the present position of the Nahar el Berd, six miles to the northward of Tripoly, or in the latitude nearly

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D

wherein

\* Λαοδικία ξη ε λη ιβ  
Γαββαλα ξη γ λδ ιιβ  
Παλτος ξη γ λδ ιδ  
Βαλανιαι ξη γ λδ ιιβ  
ΦΟΙΝΙΚΗΣ ΘΕΣΙΣ.  
Ελισιγε ποτ.  
ισβοληι ξη λδ γιβ

Σιμυρα ξη γ λδ γ  
Ορθυσια ξη ε λδ γ  
Τριπολις ξη ι λδ γ  
Θει προτωπον  
ακρον ξη γ λδ γ  
Ptol. Geogr. l. v. c. 15.  
edit. Bert.

wherein I find it. In like manner, Strabo places Orthosia immediately after Eleutherus, and to the northward of it; agreeable whereunto we still find, upon the N. banks of this river, the ruins of a considerable city, whose adjacent district pays yearly to the Bashaws of Tripoly a tax of fifty dollars, by the name of Or-tosa. In Peutinger's table also, Orthosia is placed thirty miles to the south of Antaradus, and twelve miles to the north of Tripoly. The situation of it likewise is further illustrated, by a medal of Antoninus Pius, struck at Orthosia; upon the reverse of which, we have the goddess Astarte treading upon a river. For this city was built upon a rising ground, on the northern banks of the river\*, within half a furlong of the sea; and as the rugged eminences of Mount Libanus lie at a small distance, in a parallel with the shore, Orthosia must have been a place of the greatest importance, as it would have hereby the entire command of the road (the only one there is) betwixt Phœnice and the maritime parts of Syria.

There is a remarkable circumstance in the natural history of the river Eleutherus, which may be a further proof of what I am contending for, viz. that the Nahar el Berd and the Eleutherus are the same river. For Pliny tells us†, that at a certain season of the year, the *Eleutherus* is so full of tortoises, that they were easily taken. It is therefore probable, that, at the season here pointed at, there must be some particular quality in the

\* Strab. Geogr. l. xvi. p. 1093.

† Lib. ix. c. 10.

the water of the Eleutherus, which engages them to frequent it more than any other of the neighbouring rivers. If the spring then should be the season here recorded, (and in the middle of April I found these animals had left the sea, and were retired within the banks of the Kishon); it is at this time that the snow begins to melt upon Mount Libanus. And as both the sources, and the whole course of the cold stream are from that mountain, the water of it must be much colder, and more impregnated with nitrous salts at this season than at another. If these qualities then should be agreeable to the tortoise, (for whether it were to copulate, or otherwise to refresh themselves, any other of the adjacent rivers would have equally served the purpose), the cold river would certainly have the preference; in as much as none of the others have the same relation to Mount Libanus; from whence alone these qualities could be derived.

The mountains of Libanus, which, from Area to the mouth of this river, lie in a W. S. W. direction, begin now to run parallel with the sea coast, at about a mile's distance; or else they stretch themselves out, in small promontories, into the sea. As there is hereby made a remarkable alteration in the face and disposition of the whole country, we have great reason to imagine, especially if proper regard is paid to the foregoing geographical circumstances, that the boundary was here fixed betwixt Syria and Phœnice. Mela (l. i. c. 4.) indeed places Simyra and Marathus

thus among the cities of Phœnice; whilst Stephanus by making Balanea, now Bannias, to be likewise a city of the same, extends this province into the very neighbourhood of Jebilee, which is contradictory to all geography. Even Pliny, notwithstanding he calls Simyra a city of Cœle-Syria; yet, by placing Marathus and Aradus, which are situated several leagues beyond it, to the N. in Phœnice, he is by no means consistent with himself. However, Ptolemy's authority is entirely in our favour; which is the more to be credited, as an old extract from Strabo\*, and even Strabo himself seems to confirm it. For when the latter calls Marathus, *πολις αρχαία Φοινικων*, an ancient city of the Phœnicians, nothing more perhaps is meant, than that it originally belonged to the Phœnicians, before they were excluded by the Seleucidæ, and so became a part of Syria. And if this interpretation is admitted, then we may likewise account for the difficulties just now related, from Mela, Stephanus and Pliny; viz. that Phœnice might originally reach to the northward of the river Eleutherus; which was afterwards the fixed boundary betwixt it and Syria.

About two leagues from the Nahar el Berd, are the ruins of Tripolis; which, being founded by the united interest of Aradus, Sidon and Tyre †, might have been intended for a common  
mart

\* Chrys. ex Strab. Geogr. l. xvi. p. 208.

† Diod. Sic. l. xvi. cap. 41. Scyl. Perip. edit. Huds. p. 41. Strab. l. xvi. p. 519. Plin. l. v. c. 20.

mart to those three maritime powers. It is situated upon a low cape, called a peninsula by Scylax\*, and has formerly enjoyed a large and safe harbour, though at present a few islands lying to the N. W. are the only shelter for vessels. There are no traces here, as far as I could observe, of any other walls than such as may be supposed to belong to one and the same city; which I take notice of, because some ancient geographers† have observed, that Tripoly was not one, but three cities, built at a furlong's distance from each other.

That which is now known by the name of Tripoly, is at half a league's distance from the old, upon the declivity of a hill, that faces the sea. It enjoys a considerable trade, arising as well from its own manufactories in silk and cotton, as from those that are brought from Aleppo and Damascus. I could observe nothing in the city walls or castle, that could give either of them a title to a Greek or Roman foundation; the appearance of both being altogether modern and Gothic, not much earlier perhaps than the times of the Croisades. The greatest curiosity is an aqueduct, with its reservoirs, some of which are twenty or thirty feet high; and, by being placed at proper distances in the town, very conveniently supply the houses, to their second and third stories, with water. Over the Prince's Bridge, which is the chief arch of the aqueduct, there is

an

\* Scyl. Perip. ut supra,

† Vid. Diod. ut supra. Pomp. Mela, l. i. c. 12.

an escutcheon charged with what appears to be a cross-crosslet; which, being the bearing of the family of Lorraine, may vouch for the tradition that it was built by Godfrey of Bulloign. At Bellmont, upon an eminence two leagues S. from Tripoly, there is a famous convent of Greek kaloria founded by the Croisades. We see, upon the southermost declivity of it, a large heap of ruins, which might belong to the ancient Trieris; and betwixt these and Tripoly, is the small village Kalemomy, the Calamos of Pliny.

I am not acquainted with that part of Phœnice, which lies between Cape Greego (the *Caput Phœnicis* of Ptolemy) and Tyre. At Tyre, I visited several of its creeks, in order to discover what conveniences there might have been formerly for the security of their navy. Yet, notwithstanding it was the chief maritime power of this country, I did not observe here the least token, either of a cothon, or of a harbour, of any extraordinary capacity. The coasting ships indeed still find tolerable good shelter from the northern winds under the southern shore; but are obliged immediately to retire, when the wind changes to the W. or S. so that there must have been some better station than this for their security and reception. In the N.N. E. portion indeed of the city, we see the traces of a safe and commodious bason, that lies within the very walls; but this is scarce forty yards in diameter; neither could it ever have enjoyed a larger area, unless the buildings which now circumscribe it, were encroach-



encroachments upon its original dimensions. Yet even this port, small as it is at present, is choaked up to that degree with sand and rubbish, that the boats of those poor fishermen who now and then visit this once renowned emporium, and *dry their nets upon its rocks and ruins*, (Ezek. xxvi. 4, 5.) can, with great difficulty, only be admitted.

All the nations of the Levant call Tyre by its ancient name טור, or *Sur*, from whence the Latins borrowed their *Sarra* \*. *Sur* lays claim to a double etymology, each of them very natural; though the rocky situation, the טור of the Phœnicians, will prevail, I am persuaded, with every person who sees this peninsula beyond the Sar †, or *purple fish*, for which it might have been afterwards in so much esteem. The purple fish, (the method at least of extracting the tincture ‡), has been wanting for many ages. However, amongst a variety of other shells, the *purpura* of Rondeletius is very common upon the sea-shore. Several of the *eruvie* which I saw, had their insides beautified

\* *Sarra* nomen deduci notum est ex Hebræo Tyri nomine טור, *Tsor*; in quo literam *Trade*, quæ medii est soni inter T et S Græci, in T mutarunt: et Romani in S. Ita factum ut ex eodem טור *Tsor* et *Tupes* nasceretur et *Sarra*. Boch. l. ii. Chan. c. 10. 5

† Quæ nunc *Tyrus* dicitur, olim *Sarra* vocabatur, a pisce quodam qui illic abundat, quem lingua sua *Sar* appellant. Vet. Scholiast. in iv. Georg. Virg.

‡ Vitruvius, de *Architect.* l. vii. c. 13. gives us the method of extracting the purple. Vid. Libav. vol. ii. Alchem. par. i. p. 160. Witsonii Theatr. variarum Rerum. p. 1. lib. 1. Card. de Subtilit. l. iv. p. 240. Tab. Column. de Purpura, § 37.

beautified with purplish streaks; a circumstance which may instruct us, that the inhabitants were pregnant with juices productive of such tinctures\*.

There is nothing remarkable betwixt this place and Mount Carmel, but what has been taken notice of by Mr Maundrell. In travelling under the S. E. brow of that mountain, I had an opportunity of seeing the sources of the river Kishon; three or four of which lie within less than a furlong of each other, and are called Ras el Kishon, or *the head of Kishon*. These alone, without the lesser contributions nearer the sea, discharge water enough to form a river half as big as the Isis. During likewise the rainy season, all the water which falls on the eastern side of the mountain, or upon the rising ground to the southward, empties itself into it in a number of torrents, at which conjunctures it overflows its banks, acquires a wonderful rapidity, and carries all before it. And it might be at such a conjuncture as this, when *the stars* (Judg. v. 21.) are said *to fight against Sisera*, viz. by bringing an abundance of rain, whereby the Kishon was so unusually high and rapid, as *to sweep away the host of Sisera*, in attempting to ford it. But these inundations are extemporaneous only, without any duration; for the course of the Kishon, which is only about seven miles in length, runs very briskly till within half a league of the sea. When the Kishon  
therefore

\* Nunc omnis ejus nobilitas conchylio atque purpura constat. l. v. c. 19.

therefore is not augmented by these accidental torrents, it never falls into the sea in a full stream, but insensibly percolates through a bank of sand, which the north winds throw up against the mouth of it. In this manner I found it, in the middle of April 1722, when I passed it. Mr Sandys and others have been mistaken, in making the Kishon flow from the mountains of Tabor and Hermon, with which it has no communication.

Beyond the sources of the Kishon to the S.E. and along the banks of it to the N.E. there are several hillocks, which separate the valley through which it runs, from the plains of Acre and Esdraelon. The river Belus, now called the Kar-danah, has its sources about iv M. to the eastward of the Ras el Kishon, on the other side of these hillocks, where there are several ponds; the largest whereof may be the Cendevia\* of Pliny, who derives the river Belus from it. And as this river waters the plains of Acre and Esdraelon, such brooks as arise from Mount Tabor, as well as others (if there be any in this neighbourhood) may possibly communicate with it; whereas the Kishon cannot, for the reasons already given. Neither indeed does the Kishon run in the direction that has been hitherto assigned to it by geographers; its true course lying from S. to N. after which it falls into the gulf of Kaifah.

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E

The

\* Rivus Pagida sive Belus, vitri fertiles arenas parvo litori miscens. Ipse e palude Cendevia a radicibus Carmeli profluit. Plin. l. v. c. 19.

The remarkable ponds above mentioned, from their near situation to the Kishon and Jezreel, may be well taken for *the waters of Megiddo* ; as Megiddo itself, together with Taanach, in the neighbourhood of it, might have been built near, or upon their banks. And in this situation was Sisera discomfited by Deborah and Barak, Judg. v. 19. Josh. xvii. 11. 1 Kings iv. 12.

Leaving Mount Carmel to the N. W. we pass over the S. W. corner of the plain of Esdraelon, the lot formerly of the tribe of Issachar. This is the most fertile portion of the land of Canaan, where that tribe might well be supposed to have *rejoiced in their tents*, Deut. xxxiii. 18. To the eastward, our prospect is bounded at about fifteen miles distance, by the mountains of Nazareth, and Hermon ; with the pointed Mount Tabor, standing apart before them. Advancing farther into the half tribe of Manasseh, we have still a fine arable country, though not so level as the former ; where the landscape is every hour changed and diversified by groves of trees, or by the ruins (which are very numerous) of ancient villages. In deviating here from the beaten path, (which we generally did to avoid the Arabs) we were sometimes obstructed, or at least had difficulty enough to force our way through this rich champain ; which, through neglect and want of culture, was so thickly planted with the more luxuriantly growing plants, such as teasels, mullein, charlock, (Mark iv. 31.) thistles, and the like, that we had much ado to defend our faces from

from being every moment offended by them. The country begins to be rugged and uneven at Samaria, the N. boundary of the tribe of Ephraim; from whence, through Sichem, all the way to Jerusalem, we have nothing else but mountains, narrow defiles, and vallies of different extents. Of the mountains, those of Ephraim, the continuation of Gerizim and Ebal, are the largest; the most of them being shaded with forrest trees; whilst the vallies below, particularly *the plains of Morch*, Gen. xii. 6. Deut. xi. 30. where Gideon put to flight the princes of Midian, Judges vii. 1. are long and spacious, not inferior in fertility to the best part of the tribe of Issachar. The mountains of the tribe of Benjamin, which lie still further to the southward, are generally more naked than those of Ephraim, having their ranges much shorter, and consequently their vallies more frequent; in one of which, vi. M. to the eastward of Jerusalem, is the village Jeremiah, formerly Anathoth; with the ruins of a convent and a small brook running by it. The tribe of Judah were possessed of a country much like that of Benjamin or Ephraim; though the mountain of Adummim\* and Quarantania, those of Engaddi, and others that border upon the plains of Jericho and the Dead Sea, are as high, and of as great extent;

\* This joins to the mountain of Quarantania; and through it the road is cut that leads from Jerusalem to Jericho; a difficult pass, *the mountain of blood*, or *the bloody road*, as the name may import; where probably it was, from the very nature of the situation, that *the man fell among thieves*, &c. Luke x. 30.

tent, as those of the two other tribes, though much more barren, and with fewer trees growing upon them. Some of the vallies likewise that belong to Judah, such as Rephaim, Eshcol, and others, merit an equal regard with the plains of Moreh, or *that parcel of ground which Jacob gave to his son Joseph*, Gen. xlviii. 22. But the western district of the tribe of Ephraim, at Ramah and Lydda, is nearly of the same arable and fertile nature, with that of the half tribe of Manasseh; as it is likewise equally plain and level. The latter of these circumstances agrees also with the tribe of Dan, though their country is not so fruitful, having in most parts of it a less depth of soil, and borders upon the sea coast at Joppa, and a great way on each side of it, in a range of mountains and precipices. And it is, for the most part, in these high situations that we meet with the dens, the holes, or caves, so frequently mentioned in Scripture; formerly the lonesome retreats of the distressed Israelites, Judges vi. 2. 1 Sam. xiii. 6. and persecuted prophets, 1 Kings xviii. 4. Heb. xi. 38. Strabo tells us, (lib. xvi. p. 760.) that the port of Joppa and Jerusalem, *ἡ πόλις καὶ ἡ θάλασσα*, were in sight of one another; but the many high intervening mountains will admit of no such prospect. From the mountain of Quarantania, the very same perhaps where the two spies concealed themselves, (Josh. ii. 16.) we have a distinct view of the land of the Amorites, of Gilead, and of Basan, the inheritance (Deut. iii.) of the tribes of Reuben and Gad; and of the  
half

half tribe of Manasseh. This tract, in the neighbourhood particularly of the river Jordan, is in many places low, and, for want of culture, shaded and overgrown with tamarisks and willows ; but at the distance of two or three leagues from the stream, it appears to be made up of a succession of hills and vallies, somewhat larger, and seemingly more fertile than those in the tribe of Benjamin. Beyond these plains, over against Jericho, where we are to look for the mountains of Abarim \*, the northern boundary of the Land of Moab, our prospect is interrupted by an exceeding high ridge of desolate mountains, no otherwise diversified, than by a succession of naked rocks and precipices ; rendered in several places more frightful, by a multiplicity of torrents which fall on each side of them. This ridge is continued all along the eastern coast of the Dead Sea, as far as our eye can conduct us ; affording us all the way a most lonesome melancholy prospect, not a little assisted by the intermediate view of a large stagnating, inactive expanse of water, rarely if ever enlivened by any flocks of water fowl that settle upon it, or by so much as one vessel of passage or commerce that is known to frequent it. Such is the general plan of that part of the Holy Land, which fell under my observation.

The

\* Nebo and Pisgah were some particular parts or summits of this mountain, from whence *Moses beheld the land of Canaan, before he was gathered to his people.* Num. xxvii. 12, 13. and xxxii. 47. Deut. iii. 27. and xxxii. 49. and xxxiv. 1.

The hills, which *stand round about Jerusalem*, situate it as it were in an amphitheatre, whose arena inclines to the eastward. We have no where any distant view of it. That from the Mount of Olives, the best and perhaps the farthest, is notwithstanding at so small a distance, that, when our Saviour was there, he might be said, almost in a literal sense, *to have wept over it*. There are very few remains of the city, either as it was in our Saviour's time, or as it was afterwards rebuilt by Hadrian, *scarce one stone being left upon another, which hath not been thrown down*. Even the very situation is altered! For Mount Sion, the most eminent part of the old Jerusalem is now excluded, and its ditches filled up; whilst the places adjoining to Mount Calvary, where Christ is said to have *suffered without the gate*, are now almost in the centre of the city.

Yet notwithstanding these changes and revolutions, it is highly probable that a faithful tradition has always been preserved of the several places that were consecrated, as we may say, by some remarkable transaction relating to our Saviour, or to his apostles. For it cannot be doubted but that, among others, Mount Calvary and the cave where our Saviour was buried, were well known to his disciples and followers; and not only so, but that some marks likewise of reverence and devotion were always paid to them. These, no less than the grotto at Bethlehem, the supposed place of our Saviour's nativity, were so  
well





A. S. 1752.

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|--|-------------------------------------|---|--|
| A The present Walls of Jerusalem.                                      | a The Gate of Jaffah & Bethlehem.   | o Where Herods Palace is supposed to have stood.            | Solomon kept his strange Wives.              |
| B.C. Those of the Antient City before Mount Sion or the City of David. | b of Damascus.                      | p The Sepulchres of the Kings.                              | Y The Road to Bethpage.                      |
| D was excluded; or Mount Olivary.                                      | c of Ephraim or Herod.              | q The Grotto of S. Jeremiah.                                | E The Area of the Temple                     |
| E. was received within the City.                                       | d of S. Stephen.                    | r The Fountain & Pool of Siloam.                            | E The Place of the Sanct Sanctorum           |
| F The Builders Field.  | e The Golden Gate of the Temple.    | s The Fountain of the Holy Virgin.                          | Where there is now a Mosque.                 |
| G The Potters Field.   | f The Dung Gate.                    | t Akeldama.   | J The Beautiful Gate of the Temple.          |
| H Mount Moria.   | g The Gate of Sion.                 | u The Pool of Bethesda.                                     | n The Church of the Presentation             |
| I The Valley of Jehoshaphat.   | h The Castle of the Pisans.         | v Where S. Stephen was Stoned.                              | Via Fig. apud Zuan Mart. Bernardine Doubden. |
| K The Brook Cedron.  | i The Place of the Cœnaeum.         | x. y. z. The Sepulchres of Zacharias Absalom & Jehoshaphat. |  |
| L The Garden of Gethsemane.  | k Bathshebas Pool.                  |   |  |
| M The Mount of Olives with the City.                                   | l The Iron Gate of the Antient.     |   |  |
| Church of the Ascension on the Top of it.                              | m The Church of the Holy Sepulchre. |   |  |
|  | n The Convent of the Franciscans.   |   |  |
|  | o The Village of Siloe where        |   |  |

Scale of 600 Yards



well known in the time of Hadrian \*, that out of hatred and contempt to the Christian name, a statue was erected to Jupiter over the place of *the holy sepulchre*, another to Venus upon Mount Calvary, and a third to Adonis at Bethlehem. All these continued, till Constantine, and his mother, St Helena, out of their great esteem and veneration for places so irreligiously profaned, erected over them those magnificent temples which subsist to this day. An uninterrupted succession, it may be presumed, of Christians, who constantly resided at Jerusalem, or who, as St Jerome informs us, occasionally resorted thither† out of devotion, would preserve, not only the names of the particular places which I have mentioned, but of the pools of Bethesda and Siloam, of the garden of Gethsemane, of the field of blood, and of a great many others that are taken notice of in the history of our Saviour.

But

\* Ab Hadriani temporibus usque ad imperium Constantini, per annos circiter centum octoginta, in loco resurrectionis simulacrum Jovis, in crucis rupe statua ex marmore Veneris a gentibus posita colebatur, existimantibus persecutionis auctoribus, quod tollerent nobis fidem resurrectionis et crucis, si loca sancta per idola polluissent. Bethlehem nunc nostrum et augustissimum orbis locum, de quo Psalmista canit, Veritas de terra orta est, lucus inumbrabat Thamuz, *i.e.* Adonidis; et in specu, ubi quondam Christus parvulus vagiit, Veneris Amasius plangebatur. Hieron. Ep. xiii. ad Paulin. Euseb. de Vita Constant. lib. iii. cap. 25.

† Longum est nunc ab absensu Domini usque ad præsentem diem per singulas ætates currere, qui Episcoporum, qui Martyrum, qui eloquentium in doctrina Ecclesiastica virorum venerint Hierosolytam, putantes se minus religionis, minus habere scientiæ, nisi in illis Christum adorassent locis, de quibus primum Evangelium de patibulo coruscaverat. Hieron. Ep. xvii. ad Marcell.

But as all these have been well described by Sandys and Maundrell, they need not be here repeated.

The many and so much celebrated pilgrimages to the Holy Land, or *sancta terra*, from whence perhaps our word *santering*, or *idling about*, might proceed, seem to have commenced upon the building of the temples above mentioned; especially after *the finding of the cross*\*, as it was given out, and the many miracles consequent thereupon.

The lot of the tribe of Judah was nearly equal in extent to that of all the other tribes; and, *being too much for them*, the tribe of Simeon had their inheritance taken out of it, Josh. xix. 9. Its southern boundary, (Numb. xxxiv. 3, 4, 5. Josh. xv. 1, 2, 3, 4.) was to be from the bottom of the Salt Sea, southward all along by the border or coast of Edom, (Numb. xxxiv. 8. Josh. xv. 1.) to the river of Egypt, and from thence to the Mediterranean Sea.

Now, as it will appear, from the following dissertation, that the river of Egypt could be no other than the Nile, particularly that branch of it which lay contiguous with Arabia, as likewise the extent and situation of the Salt Sea, otherwise called the Lake of Sodom, the Asphaltic Lake, the Sea of the Plain, and the Dead Sea, may be proved from several geographical circumstances, to run parallel with the Mediterranean Sea, and to stretch itself towards the Gulf of Eloth,

\* Vide Wesselingii Dissert. de Peregr. Hierosol.





- A *A long Valley from the Nile to the Red Sea called Baideah Tiah beni Israel &c. Vol 2. p. 91.*
- B B *The two different Roads from Goshen to the Red Sea. Vol 2. p 91.*
- C *Latopolis or Babylon or Cairo from whence the Israelites departed Vol 2, p 91.*
- D *Pihahiroth afterwards called Chysma, Vol 2, p. 96.*
- X *Baalzephon now Jibbel Attakah.*
- Z *Migdol now Jibbel Gewounbee, Vol 2. p 99.*



Eloth, at about LXXV M. distance, and nearly in a S.S.W. direction; we have, so far, two considerable points given us towards the fixing of this border of Edom, which was to be the boundary of the Land of Promise, to the south. It was first of all *to be* (or to commence) *from the bay of the Salt Sea, that looketh southward*, Josh. xv. 2. and *it went out from thence to the south side of Maaleh Accrabbim; i. e.* as in the margin, *to the ascent of Accrabbim*; which might be the very road where these mountains are usually passed over. Accrabbim then, may probably be the same with the mountains of Accaba, according to the present name, which hang over Eloth; where there is a high steep road, well known to the Mahometan pilgrims for its ruggedness. And that this part of the boundary might reach so far to the southward, may be inferred, not only from St Jerome, who, (*in locis Hebr.*) makes Eloth to be a part of the Holy Land, but from Exodus xxiii. 31. where the Red Sea, including, as we may suppose, both the Elanitic and Heroopolitic Gulfs of it, is said to be the southern bounds of it. This seems also, to be further confirmed by what follows in the context; where, from Maaleh Accrabbim, this boundary *was to pass along to Zin*, or the desert of that name, which must therefore reach as far as Maaleh Accrabbim and Eloth. From hence *it was to ascend up, on the south side, unto Kadesh Barnea*; which, from the circumstance of *ascending up to it*, must lie nearer the Land of Promise than Maaleh Accrab-

bim, Elath, or the Red Sea; as from *the ascending up to it on the south side*, should imply, that it even lay without, or on the north side of the boundary.

From Kadesh Barnea, this boundary *was to pass along to Hezron, and to go up to Adar, and fetch a compass*, (the direct way perhaps along this district being interrupted by mountains), to Karkaa; *from thence*, ver. *A. it passed towards Azimon, and went out into the river of Egypt*. But of these intermediate places, unless Azimon should be the same place that was afterwards called Heroopolis, we can give no account. However, it may be observed upon the whole, that as this boundary, in its way to *the river of Egypt*, was to touch at the Heroopolitic Gulf of the Red Sea, (Mount Seir, Josh. xii. 7. being left all the way on the left hand), an imaginary line, drawn from the northermost shore of the Red Sea to Elath, and from thence to Kadesh Barnea, and so forward, in the same parallel, by Adjeroute or Heroopolis, to the river of Egypt, near Kairo, or the Land of Goshen, will be the boundary required. But further notice will be taken of this subject, in the course of our geographical inquiries.

As their *east border was to be the Salt Sea*, Josh. xv. 5. *even unto the end of Jordan*, or its influx into it, so the *west border*, ver. xii. *was to be the Great Sea*, or the Mediterranean, *and the coasts thereof, from Ekron to the river of Egypt*; the most part of which is low, of a barren sandy quality,



quality, and very dangerous for vessels to approach. Several of the ancient cities, particularly those of the Philistines, have preserved their old names; for Ekron is called Akron, Ascalon is contracted into Scalon, Gath into Jet, and Gaza, which lies about seven leagues to the S. W. of Akron, and eleven in the same direction from Jaffa, is pronounced Gazy. Rhinocorura was situated near the bottom of the gulf, sixteen leagues to the S. W. by W. of Gazy, and eighteen to the eastward of the Nile. The Lake Sirbonis, the boundary, as it is made by some of the old geographers\*, betwixt Egypt and Phœnicia, lay betwixt Rhinocorura and the Nile, at six leagues distance from the latter, which was formerly of great extent, and had a communication with the sea: though, indeed, what I have said of Kadesh Barnea, Rhinocorura, and this lake, is barely conjectural, by comparing what I myself have seen of Judea, the Nile, Arabia, and its two gulfs, with the accounts that are given us of them by different authors.

If then we take in the whole extent of the Land of Promise, from Hamath to the river of Egypt, and from the coast of the Great or Mediterranean Sea, to the easternmost possessions of the Reubenites, which reached to the *deserts of Arabia*, or, as it is recorded, 1 Chron. v. 9. *to the very entrance into the wilderness from (i. e. on this side)*

\* Ab urbe Orthosia Pelusium usque regio maritima Phœnicia dicitur, angusta existens. Chrys. ex Strab. Geogr. lib. xvi. p. 208.

side) the river *Euphrates*, which countries, at one time or another, were in the possession of the Israelites, it will contain CCCCLX M. in length; and by bounding it no further to the eastward, as we will suppose, than with the meridians of Hamath and Damascus, it will contain near one hundred miles in breadth. The extent of it indeed, *from Dan to Beersheba*, which is often mentioned in Scripture, as the more settled and permanent possession of the Israelites, does not exceed CXX M.; yet, even reduced to this length only, considering the great fruitfulness of the whole, the number of its inhabitants, together with the many cities and villages that belonged to it, the Holy Land was so far from being an inconsiderable spot of ground, as some authors have misrepresented it, that, exclusive of what it was in the reigns of David and Solomon, Ezra iv. 20. and many ages after, it must have been always regarded as one of the most opulent and considerable kingdoms of the east; and that the Israelites, according to the acknowledgment of the king of Tyre, 1 Kings v. 7. were *a great people*.

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## CHAPTER II.

*An Inquiry whether the Nile, or a supposed torrent at Rhinocorura, was the Nahal Mitzraim, or River of Egypt.*

IT has been a point long controverted among the learned, whether the Nile, or a supposed rivulet at Rhinocorura, was the western boundary of the Holy Land. In order therefore to settle this dispute, which is of no small consequence in the sacred geography, it may be observed in the first place\*, that it does not appear, from the ancient geography, either sacred or profane, that Rhinocolura, or any city of note in that situation, was known, till many ages after the time of Joshua. Neither do we learn from Strabo, Mela, Ptolemy, Pliny, or any of the other old geographers or historians, who have described these parts, that any river or torrent, even after Rhinocorura was built, did there empty itself into the sea. Eratosthenes indeed, as he is quoted by Strabo, supposes the lakes of Arabia, made by the overflowing of the Euphrates,

\* *Rhinocorura* or *Rhinocolura*, as it is differently written, was so called from (ῥι or ῥινος and κολωνα or κερων) the inhabitants having had their noses cut off; as the story is told by Diodorus Siculus, *Bibl.* l. i.

Euphrates, to empty themselves by some subterraneous passages into the rivers of Rhinocorura and Mount Cassius. But Strabo\* himself calls in question the probability of this whole account. For when he comes to speak expressly of these parts †, by enumerating the several remarkable places, both upon the Egyptian and the Syrian side of Rhinocorura, he does not take the least notice of a river; a circumstance too material to have been omitted by so accurate a geographer as Strabo.

Several pilgrims likewise, and travellers, in their way from Egypt to the Holy Land, have travelled along this coast; some of whose journals and memoirs have been made public, particularly those of Mr Sandys. Yet both these and others, as far as I can inform myself, are all silent in this particular; which is so far to be regarded in our favour, that, provided there had been a river in this dry and barren situation, it may well be presumed that the thirsty traveller would have recorded it with as much exactness as he had tasted of it with pleasure.

Nay, so far was the whole neighbourhood of Rhinocorura, at the time of its foundation (and we can scarce admit of any alteration since) from affording the least appearance of a running stream, or even of an occasional torrent, that Diodorus Siculus, who has left us the best and most circumstantial account of it, tells us, that 'it was  
' situated

\* Οὐκ οἶδα ὅτι πρὸς ποταμὸς εἰρηκεῖν. lib. xvi. p. 510. edit. Casaub.

† *Idem*, p. 522.

‘ situated in a barren country, deprived of all the  
‘ necessities of life; that, without the walls,  
‘ there were several salt-pits; and that within,  
‘ the wells yielded only a bitter corrupted water\*.’  
Herodotus† confirms this account, by telling us,  
that ‘ in those deserts there was a dreadful want  
‘ of water, (χωρὶς ἀνδρῶν καὶ θειῶς), to the distance of  
‘ three days journey from Mount Cassius or the  
‘ Sirbonic Lake.’ Strabo‡ likewise acquaints us,  
that ‘ the whole country betwixt Gaza and the  
‘ Sirbonic Lake, was (λυπεὰ καὶ ἀμμώδης) barren and  
‘ sandy.’ It is likewise very probable, in so great  
a distress as this for water, that had there been,  
during the rainy season, any torrent or occasional  
stream running by it, the inhabitants would rather  
have imitated their neighbours the Egyptians,  
in building themselves cisterns for the reception  
of this annual supply of good water, than have  
been reduced to the necessity of digging themselves  
wells for the obtaining of bad. There appears then  
to be little reason for fixing so remarkable a  
boundary as that of the Holy Land, in a wild open  
desert, which had neither city, river, torrent, or,  
as far as we know, any remarkable land-mark to  
distinguish it.

But it may be urged, perhaps, that the Septuagint  
version is contradictory to this account, which,  
instead of נַהַל מִצְרַיִם, Nahal Mitzraim,  
*the river of Egypt*, Isa. xxvii. 12. (as it is in, and  
as we render it verbatim from, the Hebrew text),  
has

\* Diod. Bibl. p. 55. † Herod. Thalia, p. 184. ed. Steph.

‡ Strab. p. 522.

has *Ῥινοκορυρα*, or *Rhinocorura*. Now, as *Rhinocorura* at the time of this version, was a place of great note and traffic, under the jurisdiction of the Egyptian kings, the translators perhaps might fancy it to have been always under the like flourishing condition and dependence; and, as it was then, so they might conclude it to have been, in the time of Joshua, a frontier city of Egypt, and as such, to have constituted the boundary we are disputing. Yet whether this, or some intended compliment to the Ptolemies, or what reason soever might induce the LXX to translate *Nahal Mitzraim* by *Rhinocorura* in this text, the same surely, had it been just and well grounded, should have engaged them to have preserved the like appellation in others. Whereas, instead of keeping up to one uniform translation of *Nahal Mitzraim*, (one strong argument why this version might have been made by different persons, and at different times), they sometimes render it, *Φασηγὶς Αιγυπτου*, *the gulf of Egypt*, Josh. xv. 4. sometimes *Ποταμός Αιγυπτου*, *the river of Egypt*, 1 Kings viii. 65. Gen. xv. 18. sometimes *Χαυκαρὶς Αιγυπτου*, *the torrent of Egypt*, 2 Chron. vii. 8. 2 Kings xxiv. 7. Numb. xxxiv. 5. Josh. xv. 47. and in the text before us, *Ῥινοκορυρα*; hereby perplexing the very nature and quality, as well as the topography of this river, by attributing to it four different appellations.

The like disagreement we may also observe in their translation of *שחר*, *שיחור* or *שיחור*, *Sihor* or *Shihor*, another name, as it will appear to be,  
of

of the river of Egypt. For, 1 Chron. xiii. 5. where the original has it, *from Shihor of Egypt*, the LXX render it, *απο οριων Αιγυπτου*, *from the borders of Egypt*. In Jer. ii. 18. for *the waters of Sihor*, they have *the water of Γηων*; *a river which encompassed the whole land of Chus*, a province of Arabia, Gen. ii. 13. In Josh. xiii. 3. instead of *Sihor, which is before Egypt*, they have, *απο της αι- κητης της κατα προσωπον Αιγυπτου*, *from the uninhabited land that lies before Egypt*. And in Isa. xxiii. 3. for *the seed of Sihor*, they have, *σπερμα μεταβολων*, *the seed of the merchants*; mistaking a **ם** *Samech* for a **ש** *Shin*, or **סחר** for **שחר**. In geographical criticism, therefore, little stress can be laid upon the authority of the LXX version, where the phrase so frequently varies from the original, and where so many different interpretations are put upon one and the same word.

Neither will this opinion be much better supported by any authorities drawn from the writings of St Jerome; because what is there laid down, in favour of the LXX version in one place, is destroyed, or invalidated at least, in another. ‘*torrente Ægypti*,’ as it is observed in his comment upon Isa. xxvii. 13. ‘*LXX Rhinocoruram transtulerunt, quod est oppidum in Ægypti Palæstinæque confinio: non tam verba S. Scripturæ, quam sensum verborum exprimentes.*’ And again, Tom. iii. ep. 129. ‘*Torrentis Ægypti, qui juxta Rhinocoruram mari magno influit.*’ And again, in his comment upon Amos vi. 14. ‘*Ab Hamath usque ad torrentem deserti sive oc-*

VOL. II. G *cidentis,*

‘ cidentis, (τῆς θυγατρὸς) ut LLX transtulerunt, *i. e.* ab Hamath ad Rhinocoruram, inter quam et Pelusium rivus Nili, sive torrens, de eremo veniens ‘ mare ingreditur.’ But here Cellarius (Geogr. Antiq. l. iii. c. 13.) rightly observes, that ‘ rivus ‘ Nili, sive torrens de eremo, Epanorthosis est, et ‘ posteriore adserto, rejicitur prius.’ For, if this torrent be a branch of the Nile, then it is the very thing that we are disputing; but if it be a different river, yet still, if it falls not in exactly at Rhinocorura, but somewhere or other only (and there are fifty or sixty miles) betwixt that city and Pelusium, nothing certain and determinate can be gathered from this quotation.

And indeed, how indefinite soever St Jerome’s meaning may be in this place, yet, in others, by taking Sihor and the Nile for synonymous terms, he entirely invalidates the authority of all that he had said before, in support of the river at Rhinocorura being the river of Egypt. ‘ Per Sihor,’ says he, in his comment upon Jeremiah, ii. 18. ‘ nos aquam turbidam interpretati ‘ sumus, quod verbum Hebraicum significat, ‘ nullique dubium quin Nilus aquas turbidas ‘ habeat; et quod fluvius Assyriorum Euphratem significet; dicente Scriptura (Gen. xv. ‘ 18.) quod repromissionis terra sit a torrente ‘ Ægypti (*i. e.* Nilo\*) usque ad fluvium magnum ‘ Euphratem.’

\* Percussit adversarios vestros ab alveo fluminis usque ad torrentem Ægypti; id est, ab Euphrate usque ad Nilum. D. Hieron. Comment. in Is. c. xxvii. lib. 7.



‘Euphratem.’ And again, upon Isa. xxiii. 3. ‘Ubi nos legimus Semen negotiatorum, in Hebræo scriptum est Semen Sihor, quod subauditur Nili, eo quod aquas turbidas habeat, quibus Ægypti segetes irrigantur.’ Where we may observe, that besides the proofs he has here given us that Sihor and the Nile are the same, he contradicts the distinction that is made by him afterwards, betwixt the torrent of Egypt and the river Euphrates; an observation that should by no means be disregarded. ‘Et hoc notandum,’ says he, ‘quod in Judææ terminis (ad orientem sc.) fluvius appellatur; Ægypti finibus, ad occidentem, torrens; qui turbidas aquas habet, at non perpetuas.’ For this definition of a torrent will by no means agree with the Nile, which hath its water turbid indeed, yet perpetually running. And besides, how different soever *χευαππος* and *ῥι- νωρ* may be in their proper meanings and significations, yet they both of them here denote the same thing; being, as has been already observed, indiscriminately, though improperly used by the LXX, instead of Nahal. Whereas Nahal should always be interpreted *the river*; and when it is joined with Mitzraim, it should be rendered *the river of Egypt*, and not *the torrent of Egypt*; which carries along with it a low and diminutive signification, highly derogatory to the dignity of the Nile, how expressive soever it may be, of the imaginary rivulet at Rhinocorura.

But upon the very supposition that there was actually a torrent or rivulet at Rhinocorura, yet  
with

with what propriety could this be called *the river of Egypt*? a country with which it has no communication, no part of which it waters; and this in direct opposition to, or exclusive rather of the Nile, the proper and the only river of Egypt. For Nahal Mitzraim, i. e. *the river of Egypt*, is as local and determinate an expression as אֶרֶץ מִצְרַיִם, Aretz Mitzraim, i. e. *the land of Egypt*, the one as well as the other having the same relation to Mitzraim; whether Mitzraim be rendered *Egypt* or *the Egyptians*. There would therefore be the same reason and propriety (as certainly there can be none) to look for the *land*, as for the *river* of Egypt, at Rhinocorura. Moreover, when a river takes its name from a country, it surely must be supposed to belong to, and to make a part of that country. When Abana and Pharfar are said to be rivers of Damascus, we immediately conclude that Damascus must be watered by the Abana and the Pharfar. To conclude otherwise, would be to confound the ideas and properties of names, as well as things. It would be the same in the present case, as if we were to make the land of the Philistines, of which Rhinocorura was originally a portion, a part of the land of Egypt, and the land of Egypt to be a part of the land of the Philistines.

For we do not find, that the settled boundaries of Egypt, either before, or at the time of Joshua, reached beyond the Nile. Agreeable to which, is the description that is given us of it by Herodo-

tus :

tus : ' That is Egypt,' says he \*, ' which is inhabited by the Egyptians ;' and again, ' Those ' are Egyptians who drink of the Nile.' And as the Egyptians lived then, as they may be supposed always to have done, within the reach and influence of that river, in as much as what lay beyond it on each side belonged either to Libya or Arabia †, the borders of Egypt, *i. e.* the land of Zoan, or the Delta in particular, 1 Kings iv. 21. 2 Chron. ix. 26. and the banks of the Nile, will be one and the same thing. Sihor consequently, which is the same with the Nile, may be said, with propriety enough, Josh. xiii. 3. to be [עלפני, *alpeni*] *before Egypt*, to lie *upon the face of it*, or *before thou enterest into it*, as עלפני may be differently understood and rendered.

That Egypt, properly so called, was thus confined within the reach and influence of the Nile, will further appear from the nature and quality of those districts, which bordered upon it on each side. For, to omit the Libyan, and to speak only of the Asiatic territories, these were, for the most part, wild and uncultivated, fit only for such people to inhabit, who were hardy and laborious, and whose occupation lay chiefly in cattle ; and, as such, they would have been an improper possession

\* Οἷος φασ Αἰγυπτον εἶναι ταυτην την ὃ Νυλος ἐκινῃ ἀρδν. Herod. p. 108. Καὶ Αἰγυπτίως νῆαι ταυτὲς οἱ ἐνερθε Ελεφαντινῆς πολίος οἰκιστῆς, ἀπο το ποταμῷ ταυτὲ πινυσι. p. *id.*

† Arabiæ conterminum claritatis magnæ, solis oppidum. Plin. l. v. c. 9. Ultra Pelusiæ ostium Arabia est. *Id. Ibid.* c. v. Alexandria, a magno Alexandro condita, in Africæ parte, ab ostio Canopico XII. M. P. *Ibid.* c. x.

sion for the lazy and luxurious Egyptians. Whereas the Philistines, their neighbours, throve and grew numerous in this country; for besides the several kings upon the sea coast, we learn, Gen. xxvi. 26. and xxi. 22. that Abimelech had a settled polity and government in the inland country, with *Phicol captain of his host, and Ahuzzah one of his friends*; or, as he would be called according to the fashion of these times, one of his *privy counsellors* or *favourites*. The flourishing and populous condition of this country, during the time of the patriarchs, was likewise the same when the Israelites went out of Egypt. For it is said, Exod. xiii. 17. that *God did not lead them by the way of the land of the Philistines, although that was near, lest they should see war in the way*: from the number, no doubt, of its warlike tribes and communities, who would be ready to dispute their passage with the sword.

Yet even all this land, the land of the Philistines, to the very banks of the Nile, was included in the land of Canaan, and given by *promise* to the children of Israel. For the Philistines themselves were strangers in this land, and are therefore called by the LXX (Judges iii. 31. and xiv. 1. &c.) *αλλοφύλοι*; as *being* originally of another *φύλοι*, race or country. It appears from Gen. x. 13, 14. that they were *Egyptians*; and, being driven out of their own country, they seized upon that which lay the nearest to them; even that of the Avims, (Deut. ii. 23.) or Hivites, (Josh. xiii. 2.) of the sons of Canaan.

Moreover,

Moreover, that the land of the Philistines was to be a portion of the land of promise, will appear from several texts of Scripture. Thus we learn from Gen. xxvi. 1. that when Isaac went unto Abimelech, the king of the Philistines, at Gerar, *God told him to sojourn in that land; for unto him, and to his seed, he would give all those countries.* Which is further specified, Josh. xiii. 2, 3. &c. *there remaineth yet, says the Lord to Joshua, very much land to be possessed; viz. all the borders of the Philistines, and all Geshuri, from Sihor, which is before Egypt, even unto the borders of Ekron northward.* This again is more particularly illustrated from Josh. xv. 47. and Judges i. 18. where the cities of the Philistines, that were given to the tribe of Judah, are Ekron, and Ashdod, and Gaza, with their *towns and their villages, unto the river of Egypt, and the Great Sea, and the borders thereof.*

And that the land of promise was not only to extend and stretch itself along the lower part of the Nile, (known to us by the name of the Pelusiac branch), but even a great way higher up to the S. W. even to the parallel of the ancient Memphis and of the Red Sea, will appear from the gift that was made to the Israelites of the land of Goshen. For Goshen, as will be proved in its proper place, lay contiguous with this part of the Nile, and was watered by it. In proof of which, Joshua is said (Josh. x. 41.) *to smite the countries and people from Kadesh Barnea, even unto Gaza, and all the country of Goshen; i. e. all the countries*

countries and people that lay to the northward, as far as the Great Sea; and to the westward, as far as the Nile. And again, Josh. xi. 16. *So Joshua took all the land, the hills, and all the south coast*, (as it may be presumed, where Arad, the Canaanite dwelt, Numb. xxi. 1.) *and all the land of Goshen*. The very situation therefore and extent of the lot of the tribe of Judah, very naturally points out to us the river of Egypt, *i. e.* the Nile, to have been their western boundary.

And further, with regard to their south border, it was to be the wilderness of Zin, Josh. xv. 1. p. 41. which comprehended Kadesh Barnea, and Gerar, and Geshuri, or the country of the Geshurites. Now, as Gerar was situated betwixt Kadesh and Shur, (Gen. xx. 1.) and the Geshurites, together with the Gezrites and the Amalekites, (1 Sam. xxvii. 8. Josh. xiii. 2, 3.) *were of old the inhabitants of the land, as thou goest to Shur, even unto the land of Egypt*; these tribes must lie contiguous with Gerar and Kadesh, even as far as Egypt. As the tribe of Judah likewise was to possess not only Goshen, but all the country of the Philistines, (for their bounds were to be from the Red Sea, Exod. xxiii. 31. which St Jerome, as above, extends even as far as Eloth eastward) their south and south-west border, containing within it the whole, or the greatest part of what was called *the way of the spies*, Num. xxi. 1. and afterwards Idumœa, would extend itself, as I have already hinted, p. 42. from the Elanitic Gulf of the Red Sea along by that of Heroopolis, quite  
to

to the Nile westward. The Nile consequently in this view and situation, either with regard to the barrenness of the country of the Philistines, or to the position of it with respect to the land of promise, or to the river Euphrates, may, with propriety enough, be called, as it is in Amos vi. 14. נַחַל הָעֲרָבָה [Nahal Harabah] *the river of the wilderness*, as we translate it, or the *western torrent*, χαμαῖος των δυσμων, as it is rendered by the LXX.

And here it may be likewise proper to observe, that the LXX, in their interpretation of עֲרָבָה, (Arbah) no less than of Sihor and Nahal Mitzraim, do not always keep the same word. In the text just now cited, and elsewhere\*, Arbah is rendered ἐν δυσμων, πρὸς δυσμας, &c. In 2 Chron. xxxiii. 14. ἀπο λίβας, κατὰ νοτον; and in 2 Chron. xxxii. 20. πρὸς λίβαν. Where, and in 1 Chron. xxvi. 30. our translators have understood Arbah, as denoting a situation to the westward. But in others, they translate it the *plain*; and in Deut. xi. 30. the *champain*; taking it, as we may presume, for some of the more level portions of what seems to be called in general מִדְבָּר, (Midbar) *the wilderness*. Thus the Arbah†, or plain,

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\* Numb. xxi. 1. and xxxiii. 48, 49, 50. and xxxvi. 13. Deut. i. 1. and xi. 30. Josh. v. 10, 11. 16. 2 Sam. ii. 29. and iv. 7.

† עֲרָבָה Talem locum seu terræ partem significat, quæ neque montosa est, neque declivis, sed plana. Arbitror a mixtura dici, h. e. mixto sapore pabuli, quod in eo crescit et jumentis conveniens est et gratum, quæ acidis delectantur. Sunt enim ejusmodi campestria non melliflua, sicut sunt valles vel colles; nec plane sterilia, qualia sunt loca aspera et deserta; sed ubi μυγμα crescit, id quod Esaias בליל חמין, *migma acetosum* vocat cap. xxx. 22. Vid C. Kirch. in voce עֲרָבָה.

which is mentioned, Deut. i. 1. to be over against the Red Sea, *viz.* at Shur, it may be supposed, and Marah; and those again, Josh. iv. 13. and v. 10. that are described to be in the neighbourhood of Jericho, at Gilgal, and along the coast of the Salt Sea, (places which I have seen), agree very well with this interpretation and description of the word Arbah.

Yet these are not all the interpretations that are given us of Arbah by the LXX. For in Job xxxix. 6. Isa. xxxiii. 9. xxxv. 1. xlv. 19. Jer. xvii. 6. and Zech. xiv. 10. it is rendered *ερημος*; in Isa. xxxv. 6. *γη δεψουσα*; and in Jer. ii. 6. *γη απειρος*; all of them appellations indeed, how literally soever different, very suitable to the nature and quality of these countries, which are no where confined by mounds, hedges, or inclosures, being for the most part so very dry and sandy, as to be capable of very little, and frequently of no culture at all. As this district therefore, which lies beyond the eastern or Asiatic banks of the Nile, from the parallel of Memphis, even to Pelusium, the land of Goshen only excepted, is all of it Arbah, *γη δεψουσα*, *απειρος*, dry, barren, and inhospitable; the prophet Amos might, with propriety enough, call the river of Egypt the river of the wilderness; or, if the situation be more regarded, the western river.

From the site then and position of this river, let us now inquire into the reason and etymology of the names which are given to it, both in sacred and profane history. These will likewise  
further



further illustrate the matter in dispute. Now it is called in Scripture, the river of Egypt, in contradistinction to the Euphrates, which being constantly, as it may be presumed, a larger stream, though both of them are considerably augmented at their respective rainy seasons, is called, by way of eminence, Nahal only, or *the river*. Yet, notwithstanding the sacred historian might distinguish the former, by the country to which it belonged, (as the Arabian writers still do the same, by calling it Neel Messir), the Egyptians themselves had no occasion to use the appellative; but as it was their only river, so they might call it simply Nahal, which, with little variation, will be easily formed into *Νεαλας*, or Nilus, as Grecian and Roman strangers might pronounce it. Sihor, as has been already occasionally proved from St Jerome, was another name given to this river in Scripture; being taken from the black tawny complexion of its water, occasioned by the great quantity of mud that is brought down with it from Ethiopia. For *סִיחֹר*, Sihor, is the same as *black*. Neither is this name peculiar to the Scriptures. For Pliny\*, Solinus†, and Dionysius‡, call it Siris; Plutarch's Osiris ||, no less than Melas

or

\* Sic quoque Nilus etiamnum Siris, ut ante nominatus per aliquot millia. Lib. v. c. 9.

† A Cataracte ultimo tutus est Nilus. Relicto tamen hoc pone se nomine, quod Siris vocatur, mox inoffensus meat. C. xlv.

‡ Σιρις ὑπ' Αἰθιοπῶν κεκληται. Περσικῶν. ver. 223.

|| Σεφωτιερι των Ἱερων — τοι Νειλοι Οσιριν καλουσιν. Plut. de Isid. et Osiride, § 33.

60. *The Nile is the Nahal Mitzraim,*

or Melo, as likewise Ægyptus \*, other names by which it was known †, have the like interpretation.

And therefore, besides this particular quality or complexion of the waters of Sihor, which is highly applicable to the Nile; it will still appear more evident from Scripture, that the river of Egypt, the Nile, and Sihor, were one and the same. For Sihor, as it is mentioned, Jer. ii. 18. could be no other. *What hast thou*, says the prophet, *to do in the way of Egypt, to drink the waters of Sihor?* which is further explained by way of antithesis, in the latter part of the verse; *or what hast thou to do in the way of Assyria, to drink the waters of the river?* i. e. of the Euphrates. For Sihor, or the Nile, was as properly the river of Egypt, as the Euphrates was of Assyria. In like manner, the prophet Isaiah (xxiii. 3.) uses the same word Sihor, which can only be understood of the Nile. *The seed of Sihor*, says he, *the harvest of the river is her revenue;* i. e. flax, wheat, rice, and other commodities; produced by the overflowing and fertilizing quality of the Nile, are transported from Egypt, to the great benefit

\* *Εν Νείλω ποταμῷ τῆς Αἰγυπτῦ, προτίθει δι' ὕψους καλυμνὸν Μελαις*—*ἀλλὰ δι' ὅτι Μελαις προτίθει καλυμνός, μετακλήθη Νείλος ἀπο τινος, &c.*—*Αἰγυπτῆναις est μελαναί.* Vid. Plut. de Fluviiis cum Not. Maussaci.

† *Viridem Ægyptum nigra fœcundat arena.*

Virg. Georg. not. Serv.

Ostia nigrantis Nili.

Claud. Phœn. ver. 100.

*Χιμαῖσι πῖλοιεντι νῆν περιβαλλόμεναι ὀλυν.*

Nonn. Dionys. l. iii. ver. 100. <sup>a</sup> Herod. Euterpe, p. 105. ed. Steph.

benefit and advantage of the merchants of Tyre. Sihor therefore, as it stands in the former text, in contradistinction to the Euphrates, and as it is described in the latter as the cause of great plenty and abundance, agrees in every circumstance with the Nile; and consequently cannot, with the least propriety, be ascribed to, even provided there actually was an obscure insignificant torrent at, Rhinocorura.

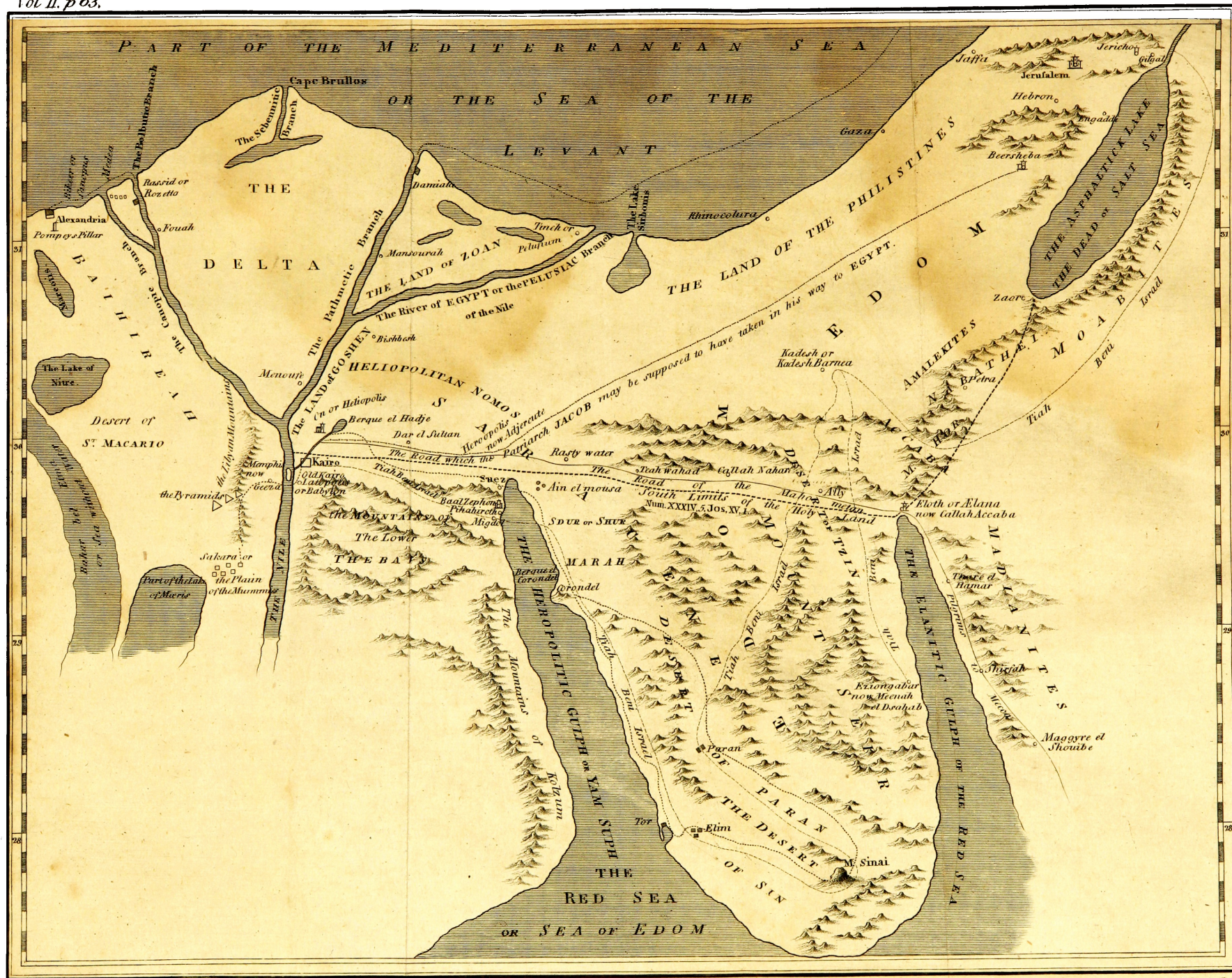
As Sihor then, in these texts, appears to be no other river than the Nile, there is sufficient reason to take it for the same, wherever and as often soever as it may occur in Scripture. And of this I presume the following texts will be a sufficient proof and demonstration. For 1 Chron. xiii. 5. where David is said *to gather all Israel together, from Sihor of Egypt, even unto the entering in of Hamath*; Solomon, in the parallel texts, 1 Kings viii. 65. and 2 Chron. vii. 8. is said *to have kept a great feast, and all Israel with him, from the entering in of Hamath, unto the river of Egypt*. Sihor of Egypt, and the river of Egypt, therefore, must be indisputably one and the same river.

We meet with the same phraseology, descriptive likewise, as it appears to be, of the extent of the Land of Promise, in the prophet Amos, vi. 14. where it is said, *they shall afflict you from the entering in of Hamath, unto the river of the wilderness*. Which may further confirm what has been hinted at already, that the river of the wilderness, or as it may be otherwise rendered, the western river, was  
another

another name only for the Nile, or the river of Egypt.

The promise then which God made to Abraham, that *he would give to his seed the land, from the river of Egypt, (i. e. from Egypt itself, as Josephus understood it, Antiq. l. viii. c. 2.) unto the river Euphrates*, was either fulfilled by his servant Joshua, or afterwards by David and Solomon, 1 Kings ix. 20. 2 Chron. viii. 7. &c. And though some part or other of this promised land, either as it bordered upon the Euphrates, the Nile, or the entering in of Hamath, might not always continue in the possession of the Israelites, 2 Kings xiv. 28. yet it is sufficient in this disquisition to prove that they had the promise of it, and at one time or other were in actual possession. For what portions of it soever they might afterwards lose, or be driven out of, it was entirely owing to their sins and transgressions; when, as the sacred history acquaints us, such cities or people as they would not conquer, or keep in subjection, after they had conquered them, *should prove snares and traps unto them, and scourges in their sides, and thorns in their eyes, until they perished from off that good land which the Lord their God had given them.* Exod. xxiii. 33. Num. xxxiii. 55. Deut. vii. 16. Josh. xxiii. 13.





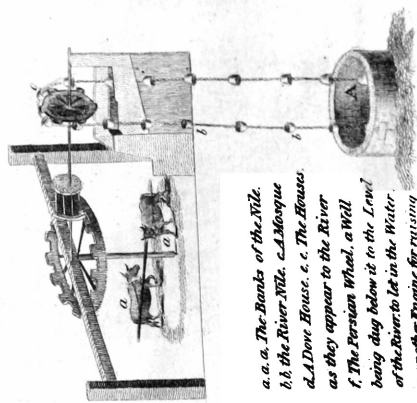




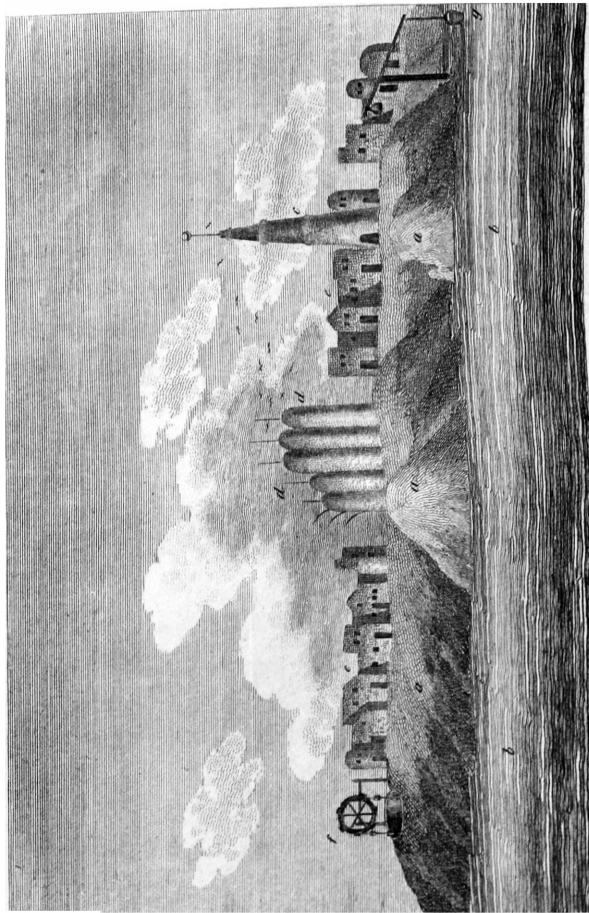


# The Persian Wheel

a a The Oxen that turn the Wheels  
 b b The Earthen Pots drawn up  
 from the Well A full of Water  
 c Where they empty themselves into  
 a Trough from whence the Water  
 is conducted into a Reservoir



a a a. The Banks of the Nile.  
 b b, the River Nile. c A Mosque.  
 d A Dove House. e, e. The Houses  
 as they appear to the River  
 f. The Persian Wheel. a Well  
 being dug below it to the Level  
 of the River to let in the Water  
 g. another Engine for raising  
 Water by a Lever.



The PLAN of one of the MUD-WALLED VILLAGES upon the BANKS of the NILE



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## C H A P T E R   I I I .

### *Geographical Observations relating to Egypt.*

**N**O part of the coast of Egypt, which fell under my observation, could be seen afar off. The mariners, in approaching it, estimate the distance by the depth of water; such a number of fathoms usually answering to the same number of leagues. That portion of it particularly, which lies betwixt Tineh\*, the ancient Pelusium, and the branch of Dami-ata, is exceedingly low, and full of lakes and morasses; agreeing so far, even to this day, with the etymology of the name. The lakes abound with a variety of excellent fish; which they either dispose of, whilst they are fresh, among the neighbouring villages, or else they salt and sell them afterwards to the Grecian merchants.

Dami-ata is one of the most considerable cities for trade in Egypt. It lies upon the eastern banks of the Nile, at five miles distance from the sea, and about sixty to the N. N. W. of Tineh.

\* From תינ (Tin) clay or mud, rendered by the Greeks πηλυσιας, from πηλος, a word of the like signification in their language.

neh. The branch that runs by it has been generally received for the Pelusiatic, by mistaking this city for the ancient Pelusium ; whereas Dami-ata seems rather to be a corruption of its ancient name Thamiathis, or *Tamiasis*, as Epiphanius writes it. This branch therefore, as well from the situation as the largeness of it, should be the Pathmetic, or Phatnic, as Strabo calls it; betwixt which and the Pelusiatic, were the Mendesian and the Tanitic ; but of these I could receive no information.

Sixteen leagues to the N. N. W. of the Pathmetic mouth, is Cape Brullos, where the Sebenitic branch is supposed to have discharged itself ; after which follows the Bolbutic, at seventeen leagues distance to the S. W. by W. This is called at present the branch of Rozetto, or Rassid, as the inhabitants pronounce it, from a large and populous city, situated about a league above the mouth of it. Rassid however may import a *cape* or *head-land*, such as it might originally have stood upon, before the additions, which will be hereafter mentioned, were made to it by the Nile.

At Me-dea, the ancient Heraclium, four leagues further, there is another branch of the Nile, though much smaller than the former ; and two leagues beyond it, in the same westerly direction, we have an inlet, with some ruins known by the name of Bikeer. As this place lies five leagues from Alexandria, and the branch of Me-dea seven, we may be induced, from the authority of  
Strabo,

Strabo\*, to take the one for the ancient city Canopus, the other for the branch of the same name. But, unless at the time of the inundation, this, no less than the Sebennitic and Pelusiatic branches, are of little account; in as much as the Nile discharges itself chiefly through those only of Rozetto and Dami-ata. What was observed long ago, though upon a different occasion, concerning the drying up of these channels, is now literally come to pass.

Nilus in extremum fugit perterritus orbem,  
Occubuitque caput, quod adhuc latet; ostia septem  
Pulverulenta vacant, septem sine flumine valles.

Ovid. *Metam. de Phaëton.*

Scandarea, as Alexandria is called at present, has two ports; the new one, which the vessels of Europe resort to, and the old one, where those only from Turkey are admitted. The former is what Strabo calls the Great Port†, lying to the eastward of the Pharos; the other is his port of Eunostus, where was also the Cibotus, which had

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\* Εἰς ἡ ἀπο Πηλυσίου παραλία πρὸς τὴν ἑσπέρην πλευρὴν, μέχρι μὲν ἢ Κανώβικον ὁματόν, χιλίων πν, καὶ τριακοσίων σταδίων, ὃ δὴ καὶ βασιὺν τῆς Δελτάς ἱσχυροῦν. Ἐνταῦθεν δ' ἐπὶ Φάρον τὴν ἡσσαν ἄλλοι σταδίοι πεντηκόντα πρὸς τοῖς ἑκατόν. Strab. lib. xvii. p. 1140. [Canopus inde, ab Alexandria sc. duodecimo disjungitur lapide. Ammian. lib. xxii. c. 41.] Κανώβος δ' ἐστὶ πόλις ἐν εἰκοσὶ καὶ ἑκατόν σταδίοις ἀπὸ Ἀλεξανδρείας πιζήκειν. p. 1152.—Μετὰ δὲ τὸν Κανώβον ἐστὶ τὸ Ἡρακλείον τὸ Ἡρακλίου ἔχον ἵππον. Εἴτα τὸ Κανώβικον ὁματόν, καὶ ἡ ἀρχὴ τῆς Δελτάς. p. 1153. Μετὰ δὲ ὁματόν τὸ Κανώβικον ἐστὶ τὸ Βολβιτικόν. Εἴτα τὸ Σεβεννιτικόν καὶ τὸ Φατικόν. τρίτον ὑπαρχόν τῳ μεγάλῳ παρα τὰ πρῶτα δύο, οἷς ἄρχει τὸ Δελτᾶ.—Τῷ δὲ Φατικῷ συναπτεῖ τὸ Μειδήσιον. Εἴτα τὸ Ταυτικόν, καὶ τελευταῖον τὸ Πηλυσιακόν. Εἰς δὲ καὶ ἄλλα τῶν τῶν μετὰ, ὡς ἐν ψευδοῦσιν ἀσμετρίᾳ. Strab. *ibid.*

† Strab. l. xvii. p. 1144-5.

formerly a communication with the Lake Mareotis, that lies behind it to the south. The present city is situated betwixt them, upon what was probably the Septem Stadium of Strabo \*; whereas the old city lay further towards the N. and N. E.

Considering the great devastations which have attended the Saracen conquests in other places, it is somewhat extraordinary, that the greatest part of the ancient walls, together with their respective turrets, should have continued entire, quite down to this time. In the same condition likewise are the cisterns, which, at the overflowing of the Nile, were annually supplied with water. These were of a great depth, having their walls raised, by several stages of arches, upon which likewise the greatest part of the city itself was erected. The grandeur and sumptuousness of the ancient Alexandria, may be further estimated from two rows of beautiful granate pillars, (several whereof were standing in 1721), which may be supposed to have constituted the street that is described by Strabo, and reaching from the Necropolis† part of the city, to the gate of Canopus. The cryptæ, or catacombs, which gave denomination to it, are most of them remaining; being little different from those that have been described at Latikea, and were probably intended for the same use, and not for the reception of mummies or embalmed bodies, like those at Sakara near Memphis.

Pompey's

\* Strab. l. xvii. p. 1141.

† Id. p. 1145.

Pompey's pillar lies at a distance to the southward of the old city. It is of the Corinthian order, though the foliage of the capital is badly executed. In expectation, it may be presumed, of finding a large treasure buried underneath it, a great part of the foundation, consisting of several fragments of different sorts of stone and marble, has been removed ; so that the whole fabric rests at present upon a block of white marble scarce two yards square, which, upon touching it with a key, in the same manner with the beautiful statue of            at Rome, sounds like a bell. Some of the broken pieces of marble, which I have mentioned, are inscribed with hieroglyphics ; a circumstance which may induce us to suspect, that this pillar was not erected by the Egyptians, (who could not well be imagined thus to bury their sacred inscriptions), but by the Greeks or Romans ; nay, later perhaps than Strabo, who would scarce have omitted the description of so remarkable a curiosity, which could not but fall under his observation.

The Delta was computed to commence from the Canopic branch of the Nile, which fell in at Me-dea ; from hence to Rozetto, the caravans are guided, for the space of four leagues, by a range of pillars, as in the Lake of Marks, p. 235. The channel which supplied Alexandria with water, lies all the way upon the right hand ; and, for want of being employed as formerly, discharges itself chiefly into this of Me-dea. There are few or no tokens of the Nile's inundation to be met with,

with, from Alexandria to Rozetto; the whole tract appearing to have been originally either a continuation of the sandy coast of Libya, or else to have been an island. In sailing likewise to the eastward, besides several smaller hillocks of sandy ground, we see a pretty large one to the E. of the Bolbutic\* mouth of the Nile, another of Cape Brullos, and a third to the W. of Dami-ata. All these might have been originally so many islands, and have served from their very situation to give the first check to the stream; and afterwards, by gradually collecting and retaining the mud, have laid the first foundation of the Delta. But further notice will be taken of this curious subject.

Except at the time of the inundation, when the whole country is one continued lake, no diversion can be attended with greater pleasure than travelling upon the Nile. At every winding of the stream, such a variety of villages, gardens and plantations, present themselves to our view, that from Rozetto to Kairo, and from thence all the way down, by the other branch, to Dami-ata, we see nothing but crowds of people, or continued scenes of plenty and abundance. The many turnings of the river, make the distance, from Kairo to each of those cities, near cc M. though, in a direct road, it will scarce amount to half that number.

Kairo,

\* This seems to be the same that is taken notice of by Strabo, under the name of ΑΓΝΟΥ ΚΕΡΑΣ. Μίτα δὲ το Βολβυτινοῖ γέμα σπιγλῶν ἐκκεῖται ταπεινὴ καὶ ἀμυγδαλῆς ἀκρὰ· καί λειται δὲ Ἀγνὴ κέρα. l. xvii. p. 1153.

Kairo, or Al Kahirah \*, or in the eastern appellation, Al Messer, lies nearly two miles to the E. of the Nile, and fifteen to the southward of the Delta, as Memphis †, which lay over against it, on the western shore, is said to have done. It is built in the form of a crescent, under the northern shade of that mountain, where the ancient castle of the Babylonians ‡ was situated. The Khalis, the *Amnis Trajanus* || of the ancients, which annually supplies the city with water, runs from one point of it to another, and is little more than five miles long. Kairo therefore, or Grand Kairo, according to the usual appellation, is much inferior

\* *Al Kahirah*, i. e. *Victrix*, a vicit, subjugavit. Gol. The same interpretation hath been put upon *Kair-wan*, notwithstanding what hath been already observed, p. 116. ‘Occuba,’ says D’Avity, ‘bastit au mesme lieu ou il avoit defeat le Comte Gre-goire, une ville qu’il nomma Cayre, c’est-a-dire Victoire; puis on l’appelle Cayrahan, c’est-a-dire deux Victoires, a cause d’une autre que les Arabes y obtinrent depuis.’—Vid. La Description generale de l’Afrique par P. D’Avity, p. 49. But the inhabitants of Egypt, and of all the Levant, usually call Kairo Messer, a name taken from Mizraim the son of Cham, the first planter of this country. ‘Urbs Fostat est ipsamet Metsr, sic dicta a Misram filio Cam, filii Noe, cui pax: ipse enim eam ædificaverat primitus. Dicitur autem appellata fuisse Fostat, quod volente Amro filio Aas, post captam Metsr, proficisci Alexandriam, præceperit ut præcederet eum Alfostat (i. e. tentorium) et figeretur aut transportaretur ante se: quare accidit ut columba descenderet, ovum in ejus vertice pareret. Quod ad Amrum delato, jussit ut relinqueretur tentorium eodem in situ, donec columba ovum suum perficeret.’ Geogr. Nub. p. 97.

† Μήμφις ὅτι ἀπὸ τοῦ Δέλτα τρισχαίνοι εἰς αὐτήν. Strab. ut supra. Plin. l. v. c. 9.

‡ Strab. l. xvii. p. 1160.

|| Δι’ ἧς (Ἠλιωπολίδος) καὶ Βαβυλωνίως πόλιν Τραϊανὸς, ποταμὸς ῥέει. Ptol. Geogr. l. iv. c. 5.

inferior in extent \* to several cities of Christendom. ; However, it must be allowed to be exceedingly populous ; for several families live in one house, and a number of persons live in each chamber of it. During likewise the busy time of the day, the principal streets are so crowded with people, that there is no small difficulty to pass by them.

The way that leads up to the castle, is cut through the rock ; from whence this ridge of eminences seems to have been called Jibbel Moccatte, or Mocat-em, i. e. *the mountain that is hewn or cut through*. Besides other places of less account within the castle, we are first of all shewn a spacious magnificent hall, supported by a double row of large Thebaic columns ; then we are shewn the Beer el Hallazoune, or the *snail-like well* †, which, with the stair case that goes winding round it, are hewn out of the natural rock. Both the hall and the well are looked upon by the inhabitants to be works of such grandeur and expence, that the patriarch Joseph, whose prison they

\* Provided the villages of old Kairo and Boulac, (whereof this lies two miles to the N. E. the other at the same distance to the W.) should have formerly belonged to this city, (and indeed the many interjacent ruins seem to point out something of this kind), then Kairo would not have been inferior in extent to the metropolis of Great Britain. Buntingius makes it to have the same dimensions with the ancient Nineveh, or to be sixty miles in circuit ; equal to three days journey, according to the prophet Jonas, iii. 3.

† This well consists of two stages, being in all about forty-four fathom deep. The upper stage is sixteen feet broad one way, and twenty-four the other. The water, which is brackish, is drawn up in the Persian wheel by oxen.



they pretend likewise to shew us, is supposed to have been the founder. But the well was probably contrived by the Babylonians, when they first built the castle, as both of them are ascribed (the rebuilding of this rather) to Salah Oddin Joseph Ebn Job, by Abdol Caliph, in his *History of Egypt*, p. 85.

Over against Kairo, on the Libyan banks of the Nile, is the village Geeza, where we shall endeavour to prove, that Memphis was formerly situated; though at present it is entirely buried in soil. Twelve miles further, in the same direction, are the pyramids, erected upon that ridge of the Libyan mountains which bounds the inundation of the Nile to the westward. The castle of Kairo has the like mountainous situation on the Asiatic side of the river; and, in this manner, the Nile is confined, for the space of two hundred leagues, quite up to the cataracts, a long chain of eminences, sometimes at four, sometimes at five or six leagues distance, constantly bounding the inundation on each side. Such in general is the plan, such likewise is the extent of the Land of Egypt. As for this Land of Goshen which lay contiguous to it, or, in the Scripture phrase, *was near it*, it will be described when we treat of *Arabia*.

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## CHAPTER IV.

*The ancient Situation of Memphis further inquired into and considered.*

A LATE curious traveller has endeavoured to prove, that the ancient city Memphis was not situated at Geeza, where it has commonly been placed, but at Metraheny or Mohanan, several miles further to the southward. ‘What fixes,’ says he, *Descript. of the East*, vol. i. p. 41. ‘the situation of Memphis to this part, is Pliny’s account, who says, l. xxxvi. c. 12. that the pyramids were between Memphis and the Delta.’ But in answer to this, it may be remarked, that the same Pliny acquaints us in another place, (l. v. c. 9.) that the pyramids lay betwixt Memphis and the Arsinoite Nomos, and consequently must be to the westward of Memphis; as they actually are, provided Geeza is the site of that ancient city.

That this description of Pliny’s is rather to be received than the former, appears from several geographical circumstances, taken as well from that author as from others. Diodorus Siculus (p. 45. § 50.) acquaints us, that ‘Memphis was  
most

‘ most commodiously situated, in the very key  
 ‘ or inlet of the country, where the river, begin-  
 ‘ ning to divide itself into several branches, forms  
 ‘ the Delta.’ This account is further confirmed  
 and more particularly circumstantiated by Pliny  
 himself, who tells us, (l. v. c. 9.) that Memphis  
 was only fifteen miles from the Delta; and Stra-  
 bo, (l. xvii. p. 555.) that it was *τριχαις* only, or  
 ninety furlongs, which do not make twelve miles.  
 Ptolemy\* makes a difference of ten minutes in  
 their longitudes, and the like in their latitudes;  
 whereby their distances, by computation, will fall  
 in very nearly with Strabo’s account, and make  
 little more than XII miles. Whereas, if we are  
 to look for Memphis at Metraheny or Mohanan,  
 where this author has placed it, the distance of it  
 from the Delta, (especially as it is laid down in  
 his map), will be XL miles; *i. e.* more than thrice  
 as much as it is recorded by Pliny, Strabo, and  
 Ptolemy.

The near agreement therefore among these geo-  
 graphers, in the distance they have left us betwixt  
 Memphis and the Delta; and the same continu-  
 ing still to be the distance, as near as can be re-  
 quired, betwixt the Delta and Geeza, appears to  
 be a much stronger proof for situating Memphis  
 at Geeza, than any heap of ruins, or than any ad-  
 jacent mounds or channels (as they are urged by  
 that author) can possibly be in favour of Metra-

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K

heny.

* The point of the Delta	62°. 0 Long.	30° Lat.
Memphis - - -	61°. 50’	29°. 50’
		<i>Ptol.</i> l. iv. c. 5.

heny. For ruins alone, unless supported by other circumstances and arguments, will in no country determine the situation of any particular city; much less in Egypt, which boasted formerly of having twenty thousand\*. Moreover, mounds and channels were so common all over Egypt, that, considering the fluctuating state of that country, and the yearly alterations that were made in it by the Nile, any one particular set or system of them, will be as uncertain and precarious a proof as ruins. Whereas the Delta is a fixed and standing boundary, lying at a determinate distance from Memphis, from which we find it no further removed in the ancient geography, than Geeza is in the modern.

But even upon a supposition that those traces of large mounds and channels, which are reported to be at Metraheny, were the remains of the ancient Memphitic rampart, yet they will by no means determine the site of this ancient city to have been there. They will rather prove the contrary; in as much as the rampart, mentioned by Herodotus, p. 141. is said to lie a hundred furlongs beyond it to the southward, (let us suppose Metraheny to be the very spot;) Memphis consequently should not be sought for there, but a hundred furlongs below it to the northward; *i. e.* a little more or less where we have the present Geeza.

Another argument why we may fix the ancient  
Memphis

\* Πόλις ἐν αὐτῇ γινώσκειται τὰς ἀπώμας τότε δισμυρίας τὰς οἰκισμείας.  
Herod. p. 179.

Memphis at Geeza, rather than at Metraheny, is the situation of the pyramids; a land-mark still more certain and determined than the Delta, which may still be subject to some small alterations. Now Strabo acquaints us in one place \*, that the pyramids were near Memphis; and in another †, that they were placed on an eminence, at forty furlongs, or five miles distance from it. Pliny ‡ makes the distance one mile further, or six miles; the difference possibly arising from hence, that Pliny computed to the pyramids themselves; whereas Strabo might only compute to the foot of the *ορεινὴ ὄρευσ*, or *rising ground*, upon which they were situated. Now, the village of Geeza, which lies upon the banks of the Nile, is commonly computed to be twelve miles from the pyramids. If the city of Memphis therefore was five or six miles broad, (and Diodorus Siculus§ tells us, it was one hundred and fifty furlongs, *i. e.* near nineteen miles in circuit), then the distance assigned by Pliny and Strabo is, as near as can be required, the present distance. Whereas, by placing

\* Αφαιρῶνται δ' ἐνθάδε (from Babylon) τῆλαυγος αἱ Πυραμίδες ἐν τῇ περὶα ἐν Μίμφει καὶ εἰσι πλησίον. Strab. l. xvii. p. 555.

† Τετρακάτω δ' ἀπο τῆς πόλεως (Μίμφιος) σταδίους προελθόντι, ὁρεινὴ τις ὄρευσ ἐστίν, ἐφ' ἣ πολλαὶ μὲν Πυραμίδες εἰσι τάφοι τῶν βασιλέων. *Ibid.*

‡ Pyramides sitæ sunt in parte Africæ, monte saxeo sterilique inter Memphim oppidum, et quod appellari diximus Delta, a Nilo minus quatuor millia passuum, a Memphi sex. Nat. Hist. l. xxxvi. c. 12.

§ Τοι μὲν γὰρ περιέβαλον τῆς πόλεως ἑκατὸς ἐκατὸν καὶ πεντήκοντα. Bibl. l. i. p. 46.

cing Memphis at Metraheny or Mohanan, the pyramids will be at three or four times that distance from it; too far surely from being (πλησιον) *near*, according to the expression of Strabo; or at six miles distance at the most, according to Pliny.

This vicinity betwixt Memphis and the pyramids, is further illustrated from the relation which each of them had to one and the same sandy mountain of Libya; Memphis being described to be situated under it, and the pyramids upon it. And of this Herodotus\* gives us sufficient testimony; for he tells us, that Memphis, by being built upon the ancient bed of the river, lay under the sandy mountain of Libya; which is likewise described to be the only sandy mountain of Egypt, whether in that, or in any other direction. The like appellations are given to the mountain, upon which the pyramids were built; for the stones employed in building them, are said to have been carried from the Arabian to the Libyan mountain †. And again, over against the Arabian, is another stony mountain of Egypt, towards Libya, covered with sand, where are the pyramids. There is some little variety indeed in these expressions, but the meaning and intention of them all is the same; in as much as το ψαμμιον ορος and

ορος

\* Τον γὰρ ποταμὸν πάντα ῥέον παρὰ τὸ οὐρ τὸ ψαμμιον πρὸς Λιβύης. Hérod. p. 141. ed. Steph. Παρὰ τὸ οὐρ τὸ ὑπὲρ Μιμφίως ἔχον. *Id.* p. 168. Ψαμμιον μόνον Αἰγυπτῷ οὐρ τὴν τὸ ὑπὲρ Μιμφίως ἔχον. *Id.* p. 105.

† Πρὸς τὸ Λίβυον καλυμμένον οὐρ. *Id.* p. 155. Τὸ δὲ πρὸς Λιβύης τῆς Αἰγυπτῷ οὐρ ἄλλο πέτρειναι τείνει, ἢ ὡς αἱ Πυραμίδες ὠνοῖσι, ψαμμιον κατωψαμμιον. *Id.* p. 103.

ορος ψαμμου καταλημμενον, no less than Λιβυκόν ορος, ορος της Αιγυπτu προς Αιδουs, and Αιγυπτu ορος το υπεr Μιμφιος, are appellations of the very same force and signification. Herodotus, in another place, determines the particular quality and height of this part of the Libyan mountain, where the pyramids were placed, by calling it (λοφος) a *ridge* or *eminence*, scarce a hundred feet high \*, viz. above, as we may add, the plains below. Now the ορεινη οφρυς, as Strabo names this same part of the Libyan mountain, being an expression equivalent to the λοφος (or the ορεινον επαικισμα, as it is interpreted) of Herodotus, we may presume they are both descriptive of the same place; and consequently, the same distance of six miles that is ascribed to Memphis from the one, will be the like distance from the other.

Nay, provided Metraheny should be the ancient Memphis, the account which Strabo has given us of it cannot be true; who tells us, that it was situated over against Babylon, and that the pyramids could be seen distinctly from Babylon. That Kairo takes up the site of the ancient Babylon, contrary to the sentiments of this author, wants no other proof than what we have recorded of it in Ptolemy †, where he tells us, that the Amnis Trajanus ran through Babylon in its course to Heroopolis and the Red Sea. Now it is agreed among

\* Έσται δ' επι λοφu τυ αυtu αμφοτεραι Πυραμιδες, μαλιστα ες εκατον ποδας ύψηλu. Herod. p. 157.

† Δι' ηs (Ηρμωv πολιος) και Βαβυλωνιος πολιος, Τρωικου ποταμου ρει. Ptolem. l. iv. p. 263.

among all geographers, that this Amnis Trajanus is the same Khalis, or *channel* (for there is no other) which makes one of the streets of Kairo in the spring; but, upon cutting down a bank at the head of it in the summer, receives the water of the Nile, and lodges it afterwards in the Birque el Hadge, as will be further taken notice of. And besides, from almost every part of Kairo, and especially from the castle, (which was formerly the whole, or the greatest part of the ancient Babylon\*), we have a distinct view of the pyramids of Geeza, but of no others. These *τηλαυγες αφορηται*, are distinctly seen, as Strabo expresses himself; and, in going the nearest way to them, we ferry over to Geeza, which is likewise, *εν τη περαια*, on the opposite shore, as Memphis is described to have been. But none of these remarkable circumstances agree with Metraheny; which, by lying several miles higher up the stream, can have no such opposite situation.

Another argument why Memphis may be placed at Geeza, rather than higher up the river, is the description that is given of it by Herodotus. ‘It was,’ says he, ‘situated, *εν τῷ στενωπῷ τῆς Αιγυπτου*, in the straits (or narrowest part) of Egypt;’ as Geeza certainly is. For, over against it, on the Asiatic or Arabian shore, is the rising ground and the mountains upon which Babylon and its suburbs were founded; and, on the other side, are the Libyan mountains and the pyramids. The Nile took up a great part of this intermediate space;

\* Vid. supra, p. 71.



space ; and that small district of land, which we now see lying betwixt the supposed site of the ancient Memphis and the Libyan mountains, was formerly the Acherusian Lake.\* So that very little, if any portion at all, of this narrow part of Egypt, was capable of cultivation.

Herodotus \* has furnished us with another expression, which may perhaps further illustrate this matter. ‘ At the time of the inundation,’ says he, ‘ they do not sail from Naucratis to Memphis by the common channel of the river, viz. by Cercasora and the point of the Delta, but ‘ over the plain,’ along the side (*παρ’ αὐτὰς πυραμίδας*) of the pyramids. For as the main stream must be then exceedingly rapid and violent, it would render the navigation that way to Memphis very long and tedious ; whereas, by taking the advantage of the inundation, and sailing upon smoother water, under the Libyan mountains, they would arrive with greater ease on the back side of the city, *παρ’ αὐτὰς πυραμίδας*, over against, or along the side of the pyramids. An expression which may likewise account for the situation that Pliny gives them betwixt Memphis and the Delta ; in as much as at this time, and under these circumstances, they were in fact situated between those places.

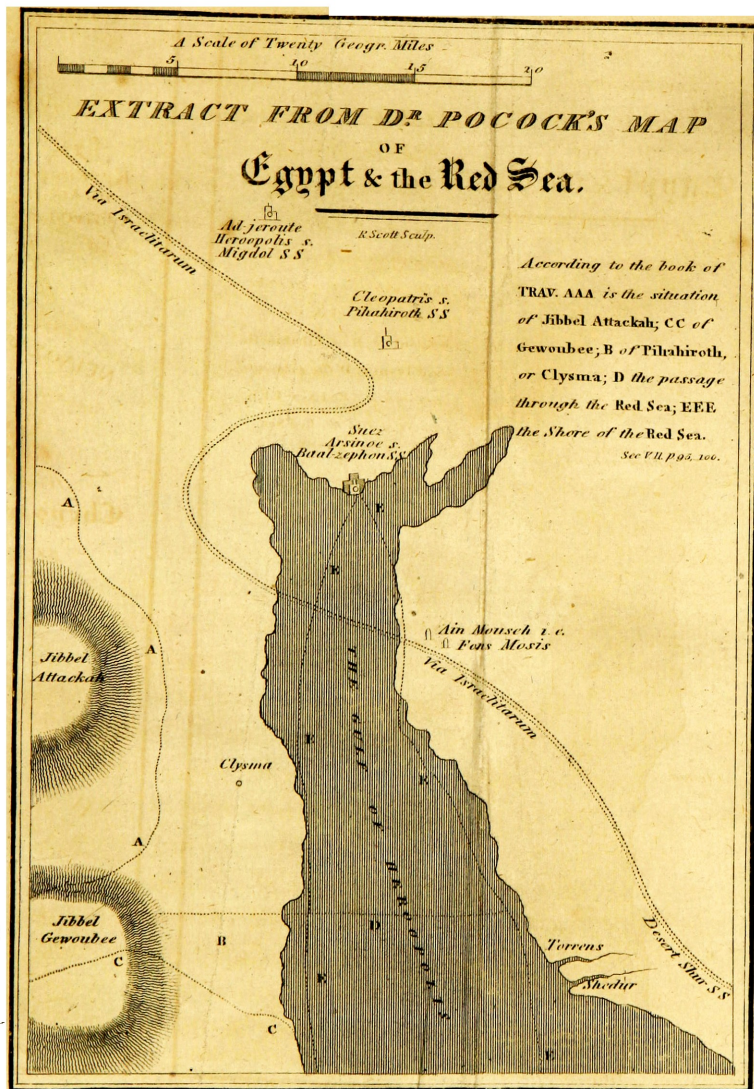
And that these pyramids, the pyramids of Geeza, as they are commonly called, are the Memphitic pyramids, so famous in antiquity, the same that are meant all along by the ancient authors I have

\* Herod. Eut. p. 140. edit. Steph.

have quoted, will appear manifest from their respective descriptions of them. For, in the first place, they are always taken notice of, together with Memphis; the ancient descriptions of them likewise, both with regard to their number, their dimensions, &c. agree with the modern; which is a further proof. Thus Herodotus tells us, (Eut. p. 155.) that ‘they were three in number; ‘that the largest had several subterraneous chambers in it; that the next in bigness had none; ‘and that the smallest was covered with Ethiopic marble.’ This marble Diodorus Siculus (l. i. p. 64.) further observes, to be like the Thebaic, as the Ethiopic actually is. Strabo (p. 555.) gives us the same number of pyramids, and the like circumstances with regard to their magnitudes: ‘Here,’ says he, ‘are several pyramids, ‘whereof three are very remarkable.’ He mentions the entrance likewise into the greatest, and that the smallest was part of it, covered with black marble. The great pyramid is further specified by the many knobs of petrified lentils, as he calls them, which lay scattered along the side of it, and are no where else to be seen\*. Pliny† observes the same number of pyramids, and that they were very conspicuous (as they, and no others remarkably are) to those who sail upon the Nile; that the smallest is covered with Ethiopic marble; and, what will identify them beyond dispute, that the Sphinx (and there was no other) lay before them.

There

\* Vid. Part. ii. § 2. *Of the Pyramids.* † Plin. l. xxxvi. c. 12.





There are several other pyramids indeed to the southward of these in the Libyan deserts; some of which are of equal dimensions, and not inferior, in their structure and materials, to those of Geeza. But none of them have been so particularly taken notice of, or even taken notice of at all, so as to interfere in this dispute. As these therefore which I have mentioned, can be no other than the pyramids of Memphis, it is very reasonable to conclude, that the city itself, from whence they were denominated, could not lie at any distance from them, but should rather be in their very neighbourhood, or where we now find the village of Geeza.

Herodotus\*, in his description of Memphis, tells us that Menes caused a lake to be made on the N. and W. sides of Memphis, and founded the magnificent temple of Vulcan; and again †, that Myris, one of his successors, built the portico of Vulcan's temple, and caused a lake to be made with pyramids, which was afterwards called the lake of Myris. This, some learned gentlemen of my acquaintance suppose to be the same that was begun by Menes, and consequently, that Memphis must be situated near the lake Myris. They argue further, that this lake is called at present the lake of Charon, who ferried the dead bodies over it from Memphis to the plain of the mummies, or the Elysian fields, as this story was improved by Orpheus and the Grecian mythologists.

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\* Herod. Eut. p. 140-1. edit. Steph. † *Id. Ibid.* p. 142.

. As for the story of Charon and the Elysian fields, it is too full of fable and allegory to build thereupon any geographical data. Neither does it appear that the lakes made by Menes and Myris are the same; on the contrary, they were certainly very different. For the latter was far enough removed from Memphis, being, according to Pliny\*, at LXXII M. distance. And moreover, it was of such a prodigious circuit and extent, that all the correspondent part of Egypt, which lies bounded by the Arabian and Libyan mountains, was an insignificant spot in comparison of it. And further, the lake of Myris† lay altogether to the westward, *παρά το ὄρος το ὑπὲρ Μιμφίος*, Herod. Eut. p. 168. i. e. *on the other side of the mountain, under which Memphis was situated*; and therefore could have no communication at all with it. Whereas, one of the lakes made by Menes was to the northward of that city; as the other, the Acherusia, as I take it to be, of Diodorus‡, lay to the westward, under the eastern brow of the same mountain. And, as this lake might be continued all along the side of these mountains, from the pyramids, even to the very neigh-

\* Inter Arsinoiten autem ac Memphiten lacus fuit circuitu CCL M. P. aut, ut Mutianus tradit CCC M. P. et altitudinis quinquaginta passuum, manu factus a rege qui fecerat, Moeridis appellatur. Inde LXXII. M. P. abest Memphis, quondam arx Ægypti regum. Plin. l. v. c. 9. Vid. Diod. Sic. Bibl. l. i. in fine.

† Vid. the Chrysanthine map III.

‡ Λείμωνα δὲ νομίζουν καὶ τὴν μυθολογούμενην οἰκῆσιν τῶν μεταλλαχῶται τοῖς παρὰ τὴν λίμνην τοποῖ τὴν καλυμμένην μὲν ΑΧΕΡΟΥΣΙΑΝ, πλησίον δὲ ἦσαν τῆς Μιμφίος, οὕτως περὶ αὐτὴν λειμῶνων καλλίστων, ἑλῶν, καὶ λῶν καὶ καλαμῶν. p. 61.

neighbourhood of Saccara, several other places, no doubt, of sepulture, besides the pyramids, intervening, it will thereby much better accord with the history of Charon, and his ferrying dead bodies from Memphis over the Acherusia, to the pyramids, or to the plains of the mummies, or Elysian fields, than the remote and extensive lake of Myris.

We may observe further, and it will point out to us perhaps the reason why we find no remains of the ancient Memphis; that the situation of it was very low, even in the very bed of the old river. For Herodotus\* acquaints us, that the river ran formerly along the side of the sandy hills of Libya; but that this old channel was dried up, by bending off the river with a rampart, *αγκυονα περὶ χιλιώντα*, a hundred furlongs higher up the stream, or to the southward, according to the parallel account in Diodorus Siculus†, and thereby making it flow in a new channel, more at equal distances, where it was turned off betwixt the Libyan and Arabian mountains. ‘This bending of the Nile, where the river is forced to flow, is kept up,’ says he, ‘and repaired every year with strong ramparts, by the Persians; for if it was suffered to be broken down, all Memphis would be in danger, *κατακλυσθῆναι*, of being swallowed up by the stream.’ In this manner, Menes is said, *ἀποβιβάζειν τὴν Μίμφιν*, or to have made land, *χέρσον*, of what was before water; or, to have dried

\* Vid. *supra*, p. 79. note.

† Diod. Sic. Bibl. l. 1. p. 46.

dried up, so as to pass over dry-shod that spot of ground upon which Memphis was built. Or perhaps ἀπογεφυρωται may have a contrary meaning to γεφυρωται, (as, among other compound words, ἀπαθιμιλιον is contrary to θημιλιον) and may here signify the same as ποιηται μη γεφυρωθη ἡ Μιμφις, i. e. to contrive it so that Memphis should not be raised upon arches. Because *junxisse pontibus Memphin*, as ἀπογεφυρωται is rendered in the Latin version of Valla, conveys no proper idea of this undertaking; and *aggressisse Memphin*, as it is in the margin, though it be agreeable indeed to the alterations that have been made in some other cities, as will be hereafter mentioned, could not here be a matter of fact.

For Memphis, at this time, down to the age of Herodotus, had no higher situation than the ancient bed of the river; and we may presume, that it continued the same, at least the greatest part of it\*, in after ages; its safety and preservation depending all along upon the keeping up these mounds and ramparts, which fortified it against the encroachments of the Nile. But after Alexandria was built, and became the chief mart for trade and navigation, and also the abode of the Egyptian kings, Memphis, by losing in this manner the residence of the court, together with its former commerce, would in proportion

lose

\* Strabo indeed, by acquainting us that the royal edifices were built upon a rising ground, seems to insinuate that the city itself was low. Ἰδρυται βασιλικά, ἃ νυν μὲν κατισπάζεται καὶ ἐστὶν ὑψηλά, ἐφ' ὧν καὶ κτήματα μέχρι τῆς κατὰ τῆς πόλεως ὁδοῦς. p. 555. edit. Casaub.



lose the many families and the numerous retinue that, in one relation or other, depended upon them both.

As the inhabitants therefore, in a few ages, for want of trade and employment, might be so gradually reduced and impoverished, as to be incapacitated, either to undergo the fatigue or expence of keeping up these mounds and ramparts, it is very probable that at length they might be necessitated entirely to abandon both them and their city. Memphis being thus left, without an inhabitant, naked and open to the ravages and devastations of the Nile; and the danger to which it was exposed for want of these ramparts of being swallowed up, καταλυσθηναι, beginning now to take place, the period of time could not be long, before the whole face and appearance of it would be so greatly changed and altered, as not to afford the least trace or footstep of its ancient grandeur and magnificence, or even that such a city had ever been.

Neither am I singular in this opinion. It is confirmed by the learned author of the *Description of the East*. ‘ It is very extraordinary,’ says he, p. 39. ‘ that the situation of Memphis ‘ should not be well known, which was so great ‘ and famous a city, and for so long a time the ‘ capital of Egypt; but as many of the best materials of it might be carried to Alexandria, and ‘ afterwards, when such large cities were built ‘ near it, as Cairo and those about it, it is no ‘ wonder that all the materials should be carried ‘ away

‘ away to places so near, and so well frequented;  
 ‘ and the city being in this manner levelled, and  
 ‘ the Nile overflowing the old ruins, it may easi-  
 ‘ ly be accounted for how every thing has been  
 ‘ buried or covered over, as if no such place had  
 ‘ ever been.’ Mr Maillet likewise, in his descrip-  
 tion of Egypt, (p. 275.) is of the same opinion,  
 though more concise: ‘ De cette Memphis, au-  
 ‘ trefois si fameuse et si considerable, a peine res-  
 ‘ tet-il assez de traces, pour pouvoir nous assu-  
 ‘ rer de sa veritable situation.’

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## C H A P T E R V.

*Of the Land of Goshen, of Arabia Petraea, and  
 of the Encampments of the Israelites therein.*

AFTER having thus adjusted the ancient situa-  
 tion of Memphis, let us return to the opposite  
 shore, to the Arabian banks of the Nile, at Kairo  
 and Mattarea, which, in the sacred geography,  
 were a part of the land of Goshen or of Rame-  
 ses. For Joseph, when he invited his father and  
 brethren into Egypt, tells them, (Gen. xlv. 10.)  
 that they *should dwell in the land of Goshen, and  
 be near him.* Goshen then must, at that time,  
 have been adjacent to the seat of the Egyptian  
 kings.

kings. Now, (to omit other arguments that might be drawn from the history and succession of the Egyptian dynasties), *as a west wind, Exod. x. 19. took away the locusts and cast them into the Red Sea*, this metropolis may be much better fixed at Memphis, whose situation exactly answers to this circumstance, than at Zoan or Mansourah, as it is now called, a city of the Ta-pitic Nomos, twenty leagues to the northward; and consequently, where the same wind could not have blown them into the Red Sea, but into the Mediterranean, or else into the land of the Philistines, which lies directly to the eastward of it. For the land of Zoan, (Psal. lxxviii. 12. 43.) where the *fearful things* are said *to have been done*, was probably another appellation only for the land of Egypt, or the land of Ham, by taking, as usual in poetical compositions, a part for the whole, or, in the instance before us, one of the most remarkable places of Egypt, such as Zoan might be in the time of David, or the composer of that Psalm, for the whole country.

And indeed, provided Zoan had been then, as it might have been afterwards, the metropolis or the seat of the Pharaohs, towards which, Jacob and his children were to direct their marches, how comes it, that at their first setting out, *they took their journey* from the vale of Hebron (Gen. xxxvii. 14. xlv. 1.) to Beersheba? which would lie too much upon the left hand; and not towards Gaza, and the sea coast of the Philistines, which would have certainly been the nearest, and the  
most

most direct road to Zoan? Whence comes it likewise, that when Jacob was carried out of Goshen, to be buried at Hebron, the procession *came to the threshing-floor of Atad\**, which was beyond, i. e. to the westward † of the *Jordan*? Gen. l. 10. For though indeed we cannot well account for this last geographical circumstance, yet it shews that the road, perhaps the same for the most part that Jacob took in going to Egypt, lay at a great distance from the sea coast of the Philistines, and consequently that they could not have set out from Zoan.

Nay, further, provided Jacob had directed his journey from Beersheba, which was his second station towards that part or city of Egypt, which was called Zoan, it will be difficult to account for the tradition that is recorded by the

LXXII

\* If this Atad is the same that is laid down by St Jerom and Eusebius, at III M. from Jericho, and II from the Jordan, it must be situated XXX M. at least to the N. E. of Hebron; and consequently would be so much out of the way, in travelling thither from Egypt, Gen. xiv. 2. and xix. 22.

† *Beyond* בְּעֵבֶר *Jordan*, is taken at large for the country that lies both to the west and to the east of Jordan, Deut. iii. 8. & 20. without being distinguished by *beyond Jordan eastward*, as in Josh. xlii. 8. or *beyond Jordan westward*, or *towards the sea*, as in Josh. xii. 7. And in this passage, it may perhaps be more circumstantiated, and signify *the threshing-floor that lay near, or at the ford of the Jordan*; we will suppose a little below, or to the southward of the plain, where Gilgal was afterwards. But without contracting the Dead Sea, and making the channel of the Jordan extend itself much further towards Beersheba than it does at present, or very probably ever did after the destruction of Sodom, nothing of this kind can be well supposed; as this ford would still lie a great way beyond Hebron, out of the direct course of their journey, from which they cannot well be presumed to have deviated.

LXXII \* and Josephus †, that his son Joseph met him at Heroopolis, or Adjeroute, according to the present name. For this being a city of the Heliopolitan Nomos ‡, bordering upon the Red Sea, it would lie directly in the road from Beersheba to Memphis, but quite out of the road from Beersheba to Zoan. The LXXII likewise instruct us, in the text above quoted, that Heroopolis was a city of the land of Rameses. The land of Rameses therefore, or Goshen, could be no other than the Heliopolitan Nomos, taking in that part of Arabia which lay bounded, near Heliopolis, by the Nile; and near Heroopolis, by the correspondent part of the Red Sea. For the Scriptures call Goshen, Gen. xlvii. 6. *the best of the land*: and again, ver. 11. *Joseph gave his father and his brethren a possession in the land of Egypt, in the best of the land, in the land of Rameses*: i. e. Goshen was the best and the most fertile portion of that jurisdiction. This then could be no other than what lay within two or three leagues at the most from the Nile; because the rest of the Egyptian Arabia, which reaches beyond the influence of this river to the eastward, is a barren, inhospitable wilderness.

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M

Josephus

\* Τον δε Ιωθαν απεταλιν εμπροσθιν αυτου προς Ιωσηφ συναντησαι αυτον καθ' Ηρμων πολιν, εις γην Ραμσση. Gen. xlvii. 28.

† Μαθων δε Ιωσηφος παρ'αγαπητων του πατρου, — υπαντησμενος εξουσι και καθ' Ηρμων πολιν αυτω συνταλιν. Joseph. Antiq. l. ii. c. 7.

‡ ΗΛΙΟΥΠΟΛΙΤΗΣ ΝΟΜΟΣ, και μητροπολις ηλιν εβ α. λ ς  
Και εν μεσοριω Αραβιας και Αφροδιτοπολεως  
Βαβυλον εβ δ. λ. Ηλιεπολις εβ α. αβ αγ  
Ηρμων πολιν εγ. λ. Δι' ης και Βαβυλωνος πολιν, Τρε-  
καιος πρωτος ρει.

Ptol. Geogr. l. iv. c. 5.

Josephus\* gives us a further proof that the land of Goshen was thus situated, by placing the first settlement of the Hebrews at Heliopolis, or On †, as the Scriptures call it; which may be a testimony likewise that Heliopolis could not have been then the seat of Pharaoh, because the Hebrews were not to be *with*, but only to be *near* him. The ruins of this city, where there is a fountain of excellent water, are known at present by the name of Matta-seah ‡, lying about three miles to the eastward of the Nile, and five to the N. E. of Kairo. But, in proportion as the Hebrews increased, it may be presumed that they spread themselves further along the Arabian banks of the Nile, towards Bishbesh, the ancient Bubastis, and towards Kairo, the ancient Latopolis, or Babylon §. The Israelites likewise are said, Exod. i. 11. to have built Pithom, the Patumus probably which Herodotus § places near Bubastis; and,

\* *Θαλασσαν—αυτην κρηνην αυτην (kana) § ζη η ρινη των τεκνων εν ΗΑΙΟΥ-ΠΟΛΕΙ.* Joseph. Antiq. l. ii., c. 4.

† On (the priest of), Gen. xli, 46. and 50. is rendered by the LXXII, *Ηλίουπολις*.

‡ The Nubian geographer seems to call the city, from the fountain, Ain (Semes) Shims, *The Fountain of the Sun*, placing it to the northward of Fostat, or old Kairo: 'Ad plagam Fostat septentrionalem urbs Ain Semes dicta,' p. 98. 'Quod etiam Constantinus L'Empereur ad Tudelensem,' p. 244. 'confirmat, quia peregrinator ille locum, quem Israelitæ habitandum acceperint, vocet *פונת שמש* *fontem Solis*.' Cellar. Geogr. Antiq. lib. iv. pag. 35. What the prophet Jeremiah (xliii. 13.) calls (*בית שמש*) Bethshemesh, i. e. *the house of the sun*, the LXXII interpret *Ηλίουπολις*.

§ Vid. Jac. de Vitriaco, l. iii. Hist. Orient. c. 7. Jos. Antiq. l. ii. c. 5.

§ *Ηταις δε παρυπαθι ολιγον Βυβαστιος πολις παρὰ Πατμου τον Αραβιαν πολιν.* Herod. Eut. § 158.

and, in consequence thereof, they may be supposed either to have inhabited, or to have lived at least in the neighbourhood of it. And as their departure, according to the tradition preserved by Josephus, was from Latopolis, or Babylon, it may be further presumed, that this was a portion likewise of the land, which Pharaoh gave them to inhabit. Goshen then was that part of the Heliopolitan Nomos, or of the land of Ramesses, which lay in the neighbourhood of Kairo, Matta-reah, and Bishbesh; as Kairo itself might be Ramesses, the capital of the district of that name, where the Israelites had their rendezvous, before they departed out of Egypt.

Now, *test peradventure*, (Exod. xiii. 17.) *when the Hebrews saw war, they should repent, and return to Egypt, God did not lead them through the way of the land of the Philistines, (viz. either by Heroopolis, in the midland road, or by Bishbesh, Tineh, and so along the sea coast, towards Gaza and Ascalon), although that was the nearest: but he led them ABOUT, through the way of the wilderness of the Red Sea.* There are accordingly two roads through which the Israelites might have been conducted from Kairo to Pihahiroth, on the banks of the Red Sea. One of them lies through the vallies, as they are now called, of Jendily, Rumeleah, and Baideah, bounded on each side by the mountains of the lower Thebais. The other lies higher, having the northern range of these mountains (the mountains of Mocattee) running parallel with it on the right hand, and the desert  
of

of the Egyptian Arabia, which lies all the way open to the land of the Philistines, on the left. About the middle of this range, we may turn short upon our right hand into the valley of Baideah, through a remarkable breach or discontinuation, in which we afterwards continued, to the very bank of the Red Sea. Suez, a small city upon the northern point of it, at the distance of thirty hours, or xc Roman miles from Kairo, lies a little to the northward of the promontory that is formed by this same range of mountains called at present Attackah; as that which bounds the valley of Baideah to the southward is called Gewoubee.

This road then, through the valley of Baideah, which is some hours longer than the other open road, which leads us directly from Kairo to Suez, was, in all probability, the very road which the Israelites took to Pihahhiroth, on the banks of the Red Sea. Josephus then\*, and other authors who copy after him, seem to be too hasty in making the Israelites perform this journey of xc or c Roman miles in three days; by reckoning each of the stations that are recorded for one day. Whereas the Scriptures are altogether silent with regard to the time or distance, recording the stations only. The fatigue likewise would have been abundantly too great for a nation on foot, encumbered with their dough, their kneading troughs, their little children and cattle, to walk

at

\* Συντομως δε ποιουμεναι την αφοδον εις Βηλσεφοντα χωριον τριταιοι παραγουσιναι της Ερυθρας θαλασσης. Jos. Antiq. l. ii. c. 5. in fine.



at the rate of xxx Roman miles a day. Another instance of the same kind occurs, Exod. xv. 23. 27. where Elim is mentioned as the next station after Marah, though Elim and Marah are further distant from each other, than Kairo is from the Red Sea. Several intermediate stations, therefore, as well here as in other places, were omitted; the holy penman contenting himself with laying down such only as were the most remarkable, or attended with some notable transaction.

Succoth then, the first station \* from Rameses, signifying only *a place of tents*, may have no fixed situation, being probably nothing more than some considerable Dou-war of the Ishmaelites or Arabs, such as we still meet with at xv or xx miles distance from Kairo, in the road to the Red Sea. The rendezvous of the caravan which conducted us to Suez, was at one of these Dou-wars; at the same time we saw another at about vi M. distance, under the mountains of Moc-catte; or in the very same direction which the Israelites may be supposed to have taken, in their marches from Goshen towards the Red Sea.

Neither is the geography of Etham, the second station, much better circumstantiated. If it appertained to the wilderness† of the same name

\* "And the children of Israel removed from Rameses, and pitched in Succoth." Numb. xxxiii. 5.

† "And they departed from Succoth, and pitched in Etham," which is in the edge of the wilderness. Num. xxxiii. 6. Exod. xiii. 20.

name, which spread itself round the Heroopolitic Gulf\*, and made afterwards the Saracene of the old geography, then the edge of it may be well taken for the most advanced part of it towards Egypt, and consequently to lie contiguous with some portion or other of the mountains of the lower Thebais, or of Mocatte, or Mocattem, as they are called, near Kairo. The particular spot of it likewise may probably be determined by what is recorded afterwards of the Israelites, (Exod. xiv. 2.) that, upon their removing from the edge of *this* wilderness, they are immediately ordered to turn† (to the S. E.) from the course, as we may imagine, of their former marches, which was hitherto in an easterly direction, and to encamp before Pihahhiroth. As Pihahhiroth therefore must lie to the right hand of the wilderness of Etham, within, or on the other side of these mountains; so the second station, or the particular portion of this wilderness of Etham, may be fixed about L miles from Kairo, at, or near the breach which I have mentioned.

That the Israelites, before they turned towards Pihahhiroth, had travelled in an open country, the same way perhaps which their forefathers had taken in coming into Egypt, appears to be further illustrated from the following circumstance:

viz.

\* “They went three days journey in the wilderness of Etham, and pitched in Marah.” Num. xxiii. 8.

† Μωσης, το λαον εξωγαγων, υποπτιους οριζων της Αιγυπτου, την ολιγον και συνταμον απολιπον οδου, οτι τοι ιερμοι ισταντο. Clem. Alex. Strom. p. 417. edit. Pott.

viz. that, upon their being ordered to remove from the edge of the wilderness, and to *encamp before Pihahhiroth*, it immediately follows that Pharaoh should then say, *they are entangled in the land, the wilderness* (betwixt the mountains, we may suppose, of Gewoubee and Attackah) *have shut them in*, Exod. xiv. 3. or, as it is in the original, סָגְרָם, (*Seggar*) *viâ illis clausit*, as that word is explained by Pagninus. For, in these circumstances, the Egyptians might well imagine, that the Israelites could have no possible way to escape; in as much as the mountains of Gewoubee would stop their flight or progress to the southward, as those of Attackah would do the same towards the land of the Philistines. The Red Sea likewise lay before them to the east; whilst Pharaoh closed up the valley behind them with his chariots and horsemen. This valley ends at the sea, in a small bay, made by the eastern extremities of the mountains which I have been describing; and is called Tiah Beni Israel, i. e. *the road of the Israelites*, from a tradition that is still kept up by the Arabs of their having passed through it; as it is also called Baideah \*, from the new and unheard of miracle that was wrought near it, by dividing the Red Sea, and destroying therein Pharaoh, his chariots, and his horsemen.

The third notable encampment then of the Israelites was at this bay. It was to be before Pihahhiroth, betwixt Migdol and the sea, over  
against

\* *Budeen, novelty, rarity*, (απο το Budan, he founded, invented, novæ et mirabilis rei conditor.) Casus novus et inauditus. Gol.

against Baal-tzephon, Exod. xiv. 2. And in Num. xxxiii. 7. it was to be before Migdol; where the word לפני *liphe* (*before*, as we render it) being applied to Pihahhiroth and Migdol, may signify no more than that they pitched within sight of, or at a small distance from the one and the other of those places. Whether Baal-tzephon then may have relation to the northern \* situation of the place itself, or to some watch tower or idol temple that was erected upon it; we may probably take it for the eastern extremity of the mountains of Suez or Attackah, the most conspicuous of these deserts; in as much as it overlooks a great part of the lower Thebais, as well as the wilderness that reaches towards, or which rather makes part of the land of the Philistines. Migdol then might lie to the south, as Baal-tzephon did to the north of Pihahhiroth. For the marches of the Israelites, from the edge of the wilderness, being to the seaward, *i. e.* towards the S. E. their encampments betwixt Migdol and the sea, or before

† צפון is rendered *the north*, Exod. xxvi. 20.; Josh. vii. 11. and in other places of Scripture. Accordingly *Baal-tzephon* may be interpreted, *the God or idol of the north*, in contradistinction perhaps to others of the lower Thebais, whose places of worship were to the S. or E. If *Tzephon* be related to צפן, *to spy out or observe*, then *Baal-tzephon* will probably signify the *God of the watch-tower*, or the *guardian God*, such as was the *Hermes* or *Terminus* of the Romans, the *Εφερος Θεος* of the Greeks, &c. The worshipping upon mountains is mentioned, 1 Kings xiv. 23. Jer. ii. 20. &c. The Persians worshipped, *ἐν τα ὑψηλοτάτα των ορειν αναβαινοντες*. Herod. Clio, § 131. *Hebraice est, Dominus Speculæ, quod ostendit loca illa edita fuisse et prærupta. Menoch. in locum. Vid. Seld. de Diis Syris, cap. iii. synt. 1.*

fore Migdol, as it is otherwise noted, could not well have another situation.

Pihahhiroth, or Hhiroth rather, without regarding the præfixt part of it, may have a more general signification, and denote the valley, or that whole space of ground which extended itself from the edge of the wilderness of Etham to the Red Sea. For that particular part only, where the Israelites were ordered to encamp, appears to have been called Pi-hahhiroth, i. e. *the mouth of Hhiroth*. For when Pharaoh overtook them, it was with respect to his coming down upon them, Exod. xiv. 9. על פי החירות, i. e. *besides, or at the mouth, or the most advanced part of Hhiroth* to the eastward. Likewise in Num. xxxiii. 7. where the Israelites are related to have encamped before Migdol, it follows, ver. 8. that *they departed, מפני החירות, from before Hhiroth*, and not from *before Pihahhiroth*, as it is rendered in our translation. And in this sense it is taken by the LXXII; by Eusebius, and St Jerome; the former interpreting Pihahhiroth by το σμα Εισμα, or *the mouth of Eiroth*, or *Iroth*, as St Jerome writes it. For פי, as Ben Ezra criticises upon the word, relates to what lies before us, being called in the *Targum*, פום *Phoum*, or פומי *Phoumi*; as Hhiroth is called הירתא *Hhirata*. Each of them therefore, is to be considered as a distinct term and appellation.

If we take Hhiroth then for an appellative, it may have two significations: It has been already observed, that this valley is closely confined

betwixt two rugged chains of mountains. By deducing Hhiroth therefore from חור *Hhor*, or חור *Hhour*, i. e. *a hole* or *gullet*, as the Samaritan and Syriac copies understand it, it may, by a latitude very common in these cases, be rendered *a narrow defile, road* or *passage*, such as the valley of Baideah has been described. Pihahhiroth therefore, upon this supposition, will be the same as the mouth or the most advanced part of this valley, to the eastward, towards the Red Sea. But as the Israelites were properly delivered at this place from their captivity and fear of the Egyptians, Exod. xiv. 15. we may rather suppose that Hhiroth denotes the place where they were restored to their liberty; as חורר *Hhorar*, and חירות *Hhiroth*, are words of the like import in the Chaldee. In Rashi's commentary, we have a further confirmation of this interpretation. 'Pihahhiroth,' says he, 'is so called, because the children of Israel were made בני הרים *Beni Hhorim*, *freemen*, at that place.' In the Targum likewise, בן-הרין *Ben Hhorin*, is used to explain חפשי *Hhaphsee*, Exod. xxi. 2. & 5. a word which denotes *liberty* and *freedom* in these and other parts of Scripture. And it may be further urged, in favour as well of this explication as of the tradition still preserved, of the Israelites having passed through this valley, that the eastern extremity of the mountain, which I suppose to be Baal-tzephon, is called, even to this day, by the inhabitants of these deserts, Jibbel Attakah, or *the mountain of deliverance*; which appellation,

together

together with those of Baideah and Tiah beni Israel, could never have been given or imposed upon these inhabitants at first, or preserved by them afterwards, without some faithful tradition that such places had once been the actual scene of these remarkable transactions. The sea likewise of Kolzum, *i. e.* *destruction*, as the correspondent part of the Red Sea is called in the Arabian geography, is a further confirmation of this tradition. Moreover, the Ichthyophagi, who lived in this very neighbourhood, are reported by Diodorus Siculus, (l. iii. p. 122.) to have preserved the like traditionary account from their forefathers, of this miraculous division of the Red Sea.

There are likewise other circumstances to prove that the Israelites took their departure from this valley, in their passage through the Red Sea. For it could not have been to the northward of the mountains of Attackah, or in the higher road which I have taken notice of; because, as this lies for the most part upon a level, the Israelites could not have been here, as we find they were, shut in and entangled. Neither could it have been on the other side, *viz.* to the S. of the mountains of Gewouby, for then (besides the insuperable difficulties which the Israelites would have met with in climbing over them, the same likewise that the Egyptians would have had in pursuing them) the opposite shore could not have been the desert of Shur, where the Israelites landed, Exod. xv. 22. but it would have been  
the

the desert of Marah, that lay a great way beyond it. What is now called Corondel, might probably be the southern portion of the desert of Marah, the shore of the Red Sea from Suez hitherto having continued to be low and sandy. But from Corondel to the port of Tor, the shore is for the most part rocky and mountainous, in the same manner with the Egyptian coast that lies opposite to it; neither the one nor the other of them affording any convenient place, either for the departure of a multitude from the one shore, or the reception of it upon the other. And besides, from Corondel\* to Tor, the channel of the Red Sea, which from Suez to Sdur is not above 1x or x M. broad, begins here to be so many leagues; too great a space certainly for the Israelites, in the manner they were encumbered, to pass over in one night. At Tor, the Arabian shore begins to wind itself round about Ptolemy's promontory of Paran, towards the Gulf of Eloth, whilst the Egyptian shore retires so far to the S. W. that it can scarce be perceived.

As the Israelites then, for these reasons, could not, according to the opinion of some authors, have landed either at Corondel or Tor; so neither could they have landed at Ain el Mousah, according to the conjectures of others. For if the passage of the Israelites had been so near the extremity of the Red Sea, it may be presumed that

\* Ebn Said (Cod. MS. Seld.) makes the sea at Corondel to be seventy miles over, whereas it is little more than so many furlongs. Vid. Vol. iii. Geogr. Vet. Min.



that the very encampments of six hundred thousand men, besides children, and a mixed multitude, which would amount to as many more, would have spread themselves even to the further, or the Arabian side of this narrow isthmus, whereby the interposition of Providence would not have been at all necessary. Because in this case, and in this situation, there could not have been room enough for the waters, after they were divided, to have stood on a heap, or to have been a wall unto them, particularly on the left hand. This moreover would not have been a division, but a recess only of the water to the southward. Pharaoh likewise, by overtaking them as they were encamped in this open situation by the sea, would have easily surrounded them on all sides. Whereas the contrary seems to be implied by the *pillar of the cloud*, Exod. xiv. 19, 20. which divided, or *came between the camp of the Egyptians, and the camp of Israel*; and thereby left the Israelites (provided this cloud should have been removed) in a situation only of being molested in the rear. For the narrow valley which I have described, and which, we may presume, was already occupied and filled up behind by the host of Egypt, and before by the encampments of the Israelites, would not permit, or leave room for the Egyptians to approach them, either on the right hand or on the left. Besides, if this passage was at Ain Mousa, how can we account for that remarkable circumstance, Ex. xv. 22. where it is said, that *when Moses brought Israel from the*  
*the*

*the Red Sea, they went out into, or landed in, the wilderness of Shur.* For Shur, a particular district of the wilderness of Etham, lies directly fronting the valley, from which I suppose they departed, but a great many miles to the southward of Ain Mousa. If they landed likewise at Ain Mousa, where there are several fountains, there would have been no occasion for the sacred historian to have observed, at the same time, that the Israelites, after *they went out from the sea into the wilderness of Shur, went three days in the wilderness,* always directing their marches towards Mount Sinai, and *found no water.* For which reason, Marah is recorded, ver. 28. to be the first place where they found water; as their wandering so far before they found it, seems to make Marah also their first station, after their passage through the Red Sea. Moreover the channel over against Ain Mousa, is not above three miles over; whereas that betwixt Shur or Sedur and Jibbel Gewoubee and At-tackah, is nine or ten, and therefore capacious enough, as the other would have been too small, for drowning or *covering* therein (Exod. xv. 28.) *the chariots and horsemen, and all the host of Pharaoh.* And therefore, by impartially weighing all these arguments together, the important point in the sacred geography may, with more authority, be fixed at Sedur, over against the valley of Baideah, than at Tor, Comandel, Ain Mousa, or any other place.

Over against Jibbel At-tackah, and the valley  
of

of Baideah, is the desert, as it is called, of Sdur, the same with Shur, *Exod.* xv. 22. where the Israelites landed, after they had passed through the interjacent gulf of the Red Sea. The situation of this gulf, which is the *Jam Suph*, יַם סוּף, *the weedy sea*, or *the tongue of the Egyptian Sea*, in the Scripture language, the gulf of Heroópolis in the Greek and Latin geography, and the western arm, as the Arabian geographers call it, of the sea of Kolzum \*, stretches itself nearly N. and S. and therefore lies very properly situated † to be traversed by that strong east wind which was sent to divide it, *Exod.* xiv. 21. The division that was thus made in the channel, the *making the waters of it to stand on a heap*, (*Psal.* lxxviii. 13.) *their being a wall to the Israelites on the right hand and on the left*, (*Exod.* xiv. 22.) besides the twenty miles distance at least of this passage from the extremity of the gulf, are circumstances which sufficiently vouch for the miraculousness of it, and no less contradict all such idle suppositions as

\* Sues vulgo non habet Abulfeda, sed ejus loco Alkolzum : videntur tamen duo loca distincta : nam noster Kalkashandi mox post Sues ponit Alkolzum ad meridiem ejusdem Sues in litore Ægyptiaco : at vero Mekrisi expresse ait Alkolzum esse dirutum et loco ejus hodie Sues esse. V. c. Joh. Gagn. Not. in Abulf. Geogr. Ad oram extimam brachii orientalis maris Alkolzum sita est Ailah, et ad oram extimam brachii occidentalis fuit urbs Alkolzum ; utriusque latitudines ferme eædem sunt. Vid. Abulf. Descrip. Maris Alkolzum.—Haud procul ab Alkolzum est locus in mari ubi demersus fuit Faraone. Id.—Alkolzum, or Kolzum without the article, seems to have some affinity with Clysma, another name that this gulf was formerly known by. The same is laid down by Philostorgius, l. iii. c. 6.

† Vid. Golii not. in Alfarganum.

as pretend to account for it from the nature and quality of tides, or from any such extraordinary recess of the sea, as it seems to have been too rashly compared to by Josephus \*.

In travelling from Sdur towards Mount Sinai, we come into the desert, as it is still called, of Marah, where the Israelites met with those *bitter waters*, or *waters of Marah*, Exod. xv. 23. And as this circumstance did not happen till after they had *wandered three days in the wilderness*, we may probably fix these waters at Corondel, where there is still a small rill, which, unless it be diluted by the dews and rain, still continues to be brackish. Near this place, the sea forms itself into a large bay, called Berk el Corondel †, *i. e. the lake of Corondel*, which is remarkable for a strong current that sets into it from the northward, particularly at the recess of the tide. The Arabs, agreeably to the interpretation of Kolzum, their name for this sea, preserve a tradition that a numerous host was formerly drowned at this place; occasioned, no doubt, by what is related Ex. xiv. 30. that the *Israelites saw the Egyptians dead upon the sea shore*; *i. e.* all along, as we may presume, from Sdur to Corondel; and at Corondel especially, from the assistance and termination of the current, as it has been already mentioned.

There is nothing further remarkable, till we see the Israelites encamped at Elim, (Exod. xv. 27. Númb. xxxiii. 9.) upon the northern skirts  
of

\* Jos. Antiq. l. ii. c. 7.

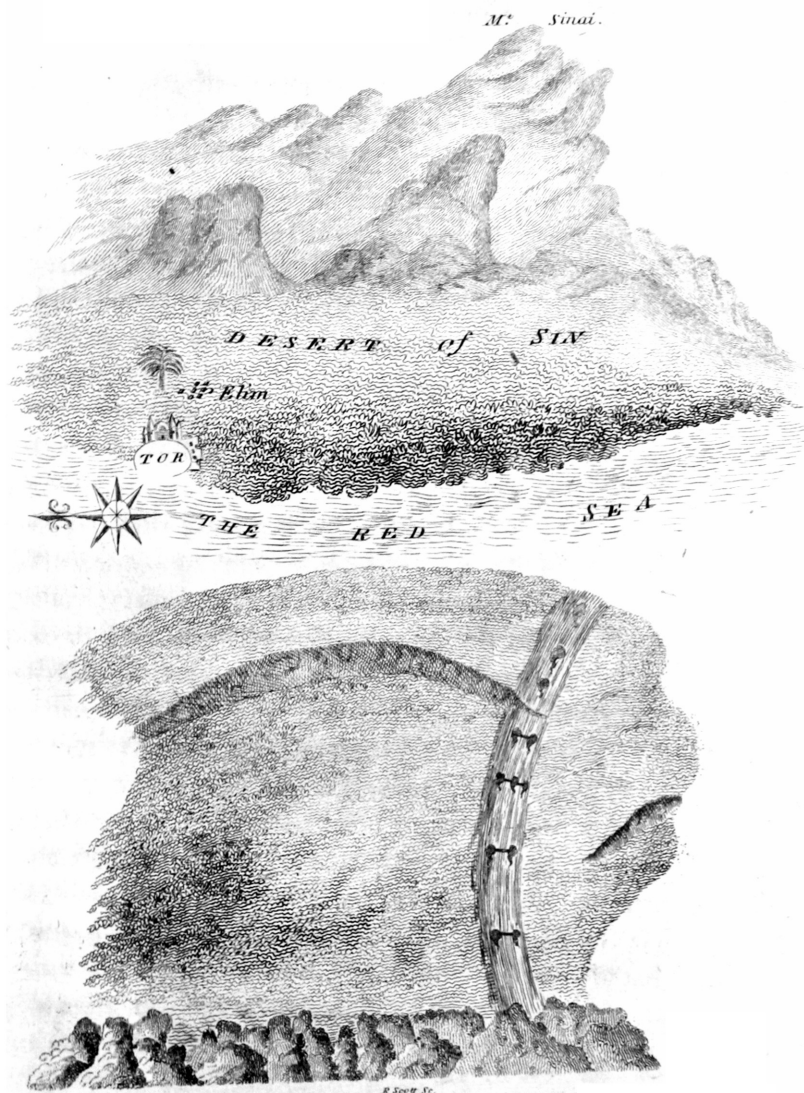
† Note, p. 100.

of the desert of Sin, two leagues from Tor, and rear thirty from Corondel. I saw no more than nine of the twelve wells that are mentioned by Moses; the other three being filled up by those drifts of sand which are common in Arabia. Yet this loss is amply made up by the great increase in the palm trees, the seventy having propagated themselves into more than two thousand. Under the shade of these trees, is the Hammam Mousa, or *bath of Moses*, particularly so called, which the inhabitants of Tor have in great esteem and veneration; acquainting us, that it was here where the household of Moses was encamped.

We have a distinct view of Mount Sinai from Elim; the wilderness, as it is still called, of Sin (יִם) lying betwixt them. We traversed these plains in nine hours, being all the way diverted with the sight of a variety of lizards and vipers, that are here in great numbers. We were afterwards near twelve hours in passing the many windings and difficult ways, which lie betwixt these deserts and those of Sinai. The latter consist of a beautiful plain, more than a league in breadth, and nearly three in length, lying open towards the N. E. where we enter it, but is closed up to the southward by some of the lower eminences of Mount Sinai. In this direction; likewise, the higher parts of this mountain make such encroachments upon the plain, that they divide it into two, each of them capacious enough to receive the whole encampment of the Israel-

ites. That which lies to the eastward, may be the desert of Sinai, properly so called, where *Moses saw the angel of the Lord in the burning bush, when he was guarding the flocks of Jethro*, Exod. iii. 2. The convent of St Catharine is built over the place of this divine appearance. It is near ccc feet square, and more than xl in height, being built partly with stone, partly with mud and mortar mixed together. The more immediate place of the Shekinah is honoured with a little chapel, which this old fraternity of St Basil has in such esteem and veneration, that, in imitation of Moses, they put off their shoes from off their feet whenever they enter it. This, with several other chapels dedicated to particular saints, are included within the church, as they call it, of the transfiguration, which is a large beautiful structure, covered with lead, and supported by two rows of marble columns. The floor is very elegantly laid out in a variety of devices in Mosaic work. Of the same tessellated workmanship likewise, are both the floor and the walls of the presbyterium; upon the latter whereof is represented the effigies of the emperor Justinian, together with the history of the transfiguration. Upon the partition which separates the presbyterium from the body of the church, there is placed a small marble shrine, wherein are preserved the skull, and one of the hands of St Catherine; the rest of the sacred body having been bestowed, at different times, upon such Christian princes

**PROSPECT of MOUNT SINAI from the PORT of TOR.**



**THE ROCK of MERIBAH.**





as have contributed to the support of this convent.

The pilgrims are not admitted into this convent by the door, (which is open only when the arch-bishop, who usually resides at Kairo, comes to be installed), but we are drawn up by a windlass, near thirty feet high, and then taken in at a window by some of the lay brothers who attend for that purpose. These, and the papasses or presbyters, who are commonly called *kalories* \*, make in all about a hundred and fifty, who live a very strict and austere life, abstaining not only from flesh, but also from butter, milk, and eggs; which even the pilgrims are not permitted to bring into the convent. The least mortification they undergo, which indeed is not often, is when they receive from their sister convent at Tor, or from Menah el Dsahab, a quantity of shell fish, crabs or lobsters, other fish being prohibited by their institution. For bread or biscuit is the main article of their sustenance; to which is added, according to the course of their stated days, half a pint of date brandy, together with a small portion of olives, oil and vinegar, sallad or potherbs; or else of dates, figs, almonds, parched pulse, and such like food as was the *εσθον* †, *dry diet* of the primitive Christians. Their bread, biscuit, oil, olives, pulse and figs, are brought to them monthly from Kairo; but their dates, brandy,

\* *Καλογερας*, i. e. a good old man. Vid. Tournef. Voy. vol. i. p. 121.

† Vid. Tertull. de Jejunio.

dy, sallad, and pot-herbs, are chiefly from their own gardens and plantations.

Mount Sinai, which hangs over this convent, is called by the Arabs, Jibbel Mousa, i. e. *the mountain of Moses*; and sometimes only, by way of eminence, El Tor, i. e. *the mountain*. St Helena, out of the great reverence she had for this *ἁγία-δισον ὄρος*, according to the appellation of these monks, built a stair-case of stone from the bottom to the top of it; but at present, as most of these steps, which history\* informs us, were originally six thousand six hundred in number, are either tumbled down, or defaced, the ascent is become very fatiguing, and frequently imposed upon their votaries and pilgrims as a severe penance. However, at certain distances, the fathers have erected, as so many breathing places, several little chapels and oratories, dedicated to one or other of their saints; who, as they are always to be invoked upon these occasions, so, after some small oblation, they are always engaged to be propitious to lend their assistance.

The summit of Mount Sinai is not very spacious; where the Mahometans, the Latins, and the Greeks,

\* Vid. *Geographum anonymum Græcum* apud L. Allatii Συμμιχτα. The steps that remain, are each of them, a little more or less, a foot high; so that the perpendicular height of this mount may be computed, according to the number of these steps, to be 6600 feet, or 2200 yards, i. e. one mile and a quarter. But as the ascent in some few places is plainer and easier, without the traces of any steps, as indeed they were not wanting, a furlong or thereabouts may be added, so as to make the whole perpendicular height from the convent to the top to be, more or less, 2400 yards.

Greeks, have each of them a small chapel. Here we are shewn the place where *Moses fasted forty days*, Exod. xxxi. 18. where *his hand was supported by Aaron and Hur, at the battle with Amalek*, Exod. xvii. 9. 12. where *he hid himself from the face of God*, the cave, as they pretend to shew it, having received the impression of his shoulders; besides many other places and stations recorded in Scripture.

After we had descended, with no small difficulty, down the other or western side of this mount, we come into the plain or wilderness of Rephidim, Exod. xvii. 1. where we see that extraordinary antiquity, the rock of Meribah, Exod. xvii. 6. which has continued down to this day, without the least injury from time or accidents. This is rightly called, from its hardness, Deut. viii. 15. *a rock of flint*, צור החלמיש; though from the purple or reddish colour of it, it may be rather rendered *the rock of חלם*, or אהלמה, *amethyst*, or *the amethystine*, or *granatè rock*. It is about six yards square, lying tottering as it were and loose, near the middle of the valley, and seems to have been formerly a part or cliff of Mount Sinai, which hangs in a variety of precipices all over this plain. *The waters which gushed out, and the stream which flowed withal*, Psal. vii. 8. 21. have hollowed across one corner of this rock, a channel about two inches deep, and twenty wide, all over incrustated like the inside of a tea-kettle that has been long used. Besides several mossy productions that are still preserved by  
the

the dew, we see all over this channel a great number of holes, some of them four or five inches deep, and one or two in diameter, the lively and demonstrative tokens of their having been formerly so many fountains. Neither could art or chance be concerned in the contrivance, in as much as every circumstance points out to us a miracle, and in the same manner with the rent in the rock of Mount Calvary, at Jerusalem, never fails to produce the greatest seriousness and devotion in all who see it. The Arabs who were our guards, were ready to stone me in attempting to break off a corner of it.

The monks likewise shew us several other remarkable places; as where *Aaron's calf* was molten, *Exod. xxxii. 4.* (but the head only is represented, and that very rudely); where the *Israelites danced* at the consecration of it, *Exod. xxxii. 19.*; where *Corah and his company were swallowed up*, *Num. xvi. 32.*; where *Elias hid himself* when he fled from Jezebel, *2 Kings viii. 9.* But the history of these, and of the other places which I have mentioned upon the mount, is attended with so many monkish tales and inconsistencies, that it would be too tedious to relate them.

From Mount Sinai, the Israelites directed their marches northward, towards the land of Canaan. The next remarkable encampments, therefore, were in the desert of Paran, which seems to have commenced immediately upon their departing from Hazaroth, three stations or days journey, *i. e. xxx M.* as we will only compute them, from  
Sinai,

Sinai, Numb. x. 33. and xii. 16. And as tradition has continued down to us the names of Shur, Marah and Sin, so has it also that of Paran; the ruins of the late convent of Paran, built upon those of an ancient city of that name, (which might give denomination to the whole desert), being found about the half way betwixt Sinai and Corondel, which lie at forty leagues distance. This situation of Paran, so far to the S. of Kadesh, will illustrate Gen. xiv. 5, 6. where Chederlaomer, *and the kings that were with him, are said to have smote the Horites in their Mount Seir, unto El Paran (i. e. unto the city, as I take it, of that name) which is in, or by the wilderness.*

The whole country round about Paran is very mountainous, making part of the *μελαται ορη* of Ptolemy\*, which he tells us extended from the promontory of Paran as far as Judæa, and would therefore take in the Accaba, which will be hereafter mentioned.

From the more advanced part of the wilderness of Paran, (the same that lay in the road betwixt Midian and Egypt, 1 Kings xi. 18.) *Moses sent a man out of every tribe to spy out the land of Canaan, Num. xxiii. 3. who returned to him after forty days, unto the same wilderness, to Kadesh Barnea, Num. xxxii. 8. Deut. i. 10. and ix. 23.*

Josh.

\* Το κατά Φαραν ακρωτηριον επιχει μοιρας      ζε    κη    ς  
Επιχει δι και η μιν Φαρε κορη μοιρας      ζε    κη    γο  
Διατεναι δι εν τη χωρα, (Arabise Petrææ) τα καλυμενα Μελαται ορη  
απο τε κατα Φαραν μυχου, ως επι την Ιουδαϊαν, και απο μιν δυτως των  
ορειων τετων παρα την Αιγυπτον, η τι ΣΑΡΑΚΗΝΗ παρρηαι. Ptolem.  
Geogr. l. v. c. 17.

Josh. xiv. 7. This place or city, which in Gen. xiv. 7. is called Enmishpat, *i. e.* the fountain of Mishpat, is, in Num. xx. 1. xxvii. 14. xxxiii. 36. called Tzin Kadesh, or simply Kadesh, as in Gen. xvi. 14. and xx. 1. and being equally ascribed to the desert of צִין Tzin and to the desert of Paran, we may presume that the desert of Tzin and Paran were one and the same. צִין or צִינִי, may be so called from the plants of divers palm grounds upon it.

A late ingenious author\* has situated Kadesh Barnea, a place of no small consequence in Scripture history, which we are now enquiring after, at eight hours, or twenty miles distance only, from Mount Sinai, which I presume cannot be admitted for various reasons. Because several texts of Scripture insinuate, that Kadesh lay at a much greater distance. Thus, in Deut. i. 9. it is said, they departed from Horeb, through *that great and terrible wilderness*, (which supposes by far a much greater extent both of time and space), *and came to Kadesh Barnea*; and in chap. ix. 23. *when the Lord sent you from Kadesh Barnea to possess the land*; which, Num. xx. 16. *is described to be a city in the uttermost part of the border of Edom*: the border of the land of Edom, and that of the land of promise being contiguous, and in fact the very same. And further, Deut. i. 2. it is expressly said, that *there are eleven days journey from Horeb, by the way of mount Seir to Kadesh Barnea*; which, from the context, cannot be otherwise

\* Descript. of the East, vol. i. p. 157.

otherwise understood, than of marching along the direct road. For Moses hereby intimates, how soon the Israelites might have entered upon the borders of the land of promise, if they had not been a stubborn and rebellious people. Whereas the number of their stations, betwixt Sinai and Kadesh, as they are particularly enumerated, Numb. xxxiii. (each of which must have been at least one day's journey), appear to be near twice as many, or  $xxi$ ; in which they are said, with great truth and propriety, Psal. cvii. 4. *to have wandered in the wilderness, out of the way*; and in Deut. ii. 1. *to have compassed Mount Seir*, rather than to have travelled directly through it. If then we allow  $x$  miles for each of these eleven days journey, (and fewer, I presume, cannot well be insisted upon), the distance of Kadesh from Mount Sinai, will be about  $cx$  miles.

That  $x$  M. a day (I mean in a direct line, as laid down in the map, without considering the deviations, which are every where, more or less) were equivalent to one day's journey, may be further proved from the history of the *spies*, who *searched the land* (Numb. xiii. 21.) *from Kadesh to Rehob, as men come to Hamath*, and returned in forty days. Rehob then, the furthest point of this expedition to the northward, may well be conceived to have been twenty days journey from Kadesh; and therefore to know the true position of Rehob, will be a material point in this disquisition. Now, it appears from Josh. xix. 29, 30:

#### 114 *Distance between Kadesh and Rehob.*

and Judges i. 34. that Rehob was one of the maritime cities of the tribe of Asher, and lay (in travelling, as we may suppose, by the common or nearest way) along the sea coast; **לְבָה חַמַּת**, Numb. xiii. 21. (not, as we render it, *as men come to Hamath*, but) *as men go towards Hamath, in going to Hamath*, or *in the way or road to Hamath*. For to have searched the land as far as Hamath, and to have returned to Kadesh in forty days, would have been altogether impossible. Moreover, as the tribe of Asher did not reach beyond Sidon, for that was its northern boundary, Josh. xix. 28. Rehob must have been situated to the southward of Sidon, upon, or (being a derivative perhaps from **רָחַב**, *latum esse*) below in the plain, under a long chain of mountains that runs E. and W. through the midst of that tribe. And as these mountains, called by some the mountains of Saron, are all along, except in the narrow which I have mentioned, near the sea, very rugged and difficult to pass over, the spies, who could not well take another way, might imagine they would run too great a risque of being discovered in attempting to pass through it. For in these eastern countries, a watchful eye was always, as it is still, kept upon strangers, as we may collect from the history of the two angels at Sodom, Gen. xix. 5. and of the spies at Jericho, Josh. ii. 2. and from other instances. If then we fix Rehob upon the skirts of the plains of Acre, a little to the S. of this narrow road, (the *Scala Tyrionum*, as it was afterwards



terwards named), somewhere near Egdiappa, the distance betwixt Kadesh and Rehob will be about ccx M.; whereas, by placing Kadesh twenty miles only from Sinai or Horeb, the distance will be cccxxx; and instead of x miles a day, according to the former computation, the spies must have travelled near xvii, which, for forty days successively, seems to have been too difficult an expedition in this hot, and consequently fatiguing climate; especially as they were on foot, or *footpads*, as מרגלים, their appellation in the original, may probably import. These geographical circumstances therefore, thus corresponding with what is actually known of those countries at this time, should induce us to situate Kadesh, as I have already done, cx miles to the northward of Mount Sinai, and xlii M. to the westward of Eloth, near Callah Nahar, *i. e.* the castle of the river or fountain, (probably the Ain Mishpat), a noted station of the Mahometans, in their pilgrimage to Mecca.

From Kadesh, the Israelites were ordered to turn into the *wilderness, by the way of the Red Sea*, Numb. xiv. 25. Deut. i. 40. *i. e.* they were at this time, in punishment of their murmurings, infidelity and disobedience, to advance no further northward towards the land of Canaan. Now these marches are called, *the compassing of Mount Seir*, Deut. ii. 1. and *the passing by from the children of Esau, which dwelt in Seir, through the way of the plain of Eloth, and Ezion-gaber*, ver. 8. The wandering therefore of the children of  
of

of Israel, during the space of thirty-eight years, Deut. ii. 14. was confined, in all probability, to that neck of land only, which lies bounded by the gulfs of Eloth and Heroopolis. If then we could adjust the true position of Eloth, we should gain one considerable point towards the better laying down and circumscribing this mountainous tract, where the Israelites wandered for so many years.

Now there is an universal consent among geographers, that (עִלֹּת) Eloth, Ailah, or Aelana, as it is differently named, was situated upon the northern extremity of the gulf of that name\*. Ptolemy† indeed places it 45' to the S. of Heroopolis, and nearly 3° to the E.; whereas Abulfeda‡, whose later authority, and perhaps greater experience, should be more regarded, makes the extremities of the two gulfs to lie nearly in the same parallel, though without recording the distance between them. I have been often informed by the Mahometan pilgrims, who, in their way to Mecca, pass by them both, that they direct their marches from Kairo, eastward, till they arrive at Callah Accaba, or *the castle* situated below the mountains of *Accaba*, upon the Elanitic point of the Red Sea. Here they begin to travel  
betwixt

\* Εἰτιουθῆν δ' (a Gaza. sc.) ὑπερβάσις λεγεται χιλίων διακοσίων ἑξήκοντα σταδίων ὡς Αἰλαῖν πόλιν ἐπὶ τῷ μυχῷ τε Ἀραβίῃ κολπῷ κοίμηνι. Strab. l. xvi. p. 1102.

† Ἡ Ελαίνα κατὰ τὸν μυχὸν κοίμηνι τε ὀρεσὺς κολπῷ, ἐπὶ τῇ μοίρᾳ ξι γγ κθ δ. Vid. Ptol. ut supra, et not. p. 89.

‡ Vid. not. l. p. 103.

betwixt the south and south east, with their faces directly towards Mecca, which lay hitherto upon their right hand ; having made in all, from Adjeroute, x M. to the N. N. W. of Suez, to this castle, a journey of seventy hours \*. But as this whole tract is very mountainous, the road must consequently be attended with great variety of windings and turnings, which would hinder them from making any greater progress, than at the rate, we will suppose, of about half a league an hour.

Eloth then (which is the place of a Turkish garrison at present, as it was a præsidium † of the Romans in former time) will lie, according to this calculation, about cXL M. from Adjeroute, in an E. by S. direction ; a position which will likewise receive further confirmation, from the distance that is assigned to it from Gaza, in the old geography. For as this distance was cL Roman miles, according to Pliny ‡, or clvii according to other authors §, Eloth could not have had a more southern situation than lat. 29°, 40'. Neither could it have had a more northern latitude, in as much as this would have so far invalidated

\* Vid. these several stations in the *Collectanea*.

† Sedet ibi (apud Ailat) legio Romana, cognomento Decima : et olim quidem Ailat a veteribus dicebatur ; nunc vero adpellatur Aila. Hieronym. in locis Hebraicis. In litore maris inter Ahila (pro Ailat, ut supra) posita est, ubi nunc moratur legio et præsidium Romanorum. *Id.* in cap. xlvii. Ezech.

‡ Heroopoliticus vocatur, alterque Ælaniticus sinus Rubri maris in Ægyptum vergentis cL millia passuum intervallo inter duo oppida Ælana, et in nostro mari Gazam. Plin. l. v. c. 11.

§ Vid. supra, not. \*, p. 116. et Marcian. Heracl. in Periplo,

lidated a just observation of Strabo's \*, who makes Heroopolis and Pelusium to be much nearer each other than Eloth and Gaza. And besides, as Gaza is well known to lie in lat.  $31^{\circ} 40'$ , (as we have placed Eloth in lat.  $29^{\circ} 40'$ ), the difference of lat. betwixt them will be  $2^{\circ}$ , or cxx geographical miles; which converted into Roman miles, (Lxxv½ of which make one degree), we have the very distance, especially as they lie nearly under the same meridian, that is ascribed to them above by Strabo and Pliny.

Yet, notwithstanding this point may be gained, it would still be too daring an attempt, even to pretend to trace out above two or three of the encampments, mentioned Numb. xxxiii. though the greatest part of them was, in all probability, confined to this tract of Arabia Petræa, which I have bounded to the E. by the meridian of Eloth, and to the W. by that of Heroopolis; Kadesh lying near, or upon the skirts of it to the northward.

However, one of their more southern stations, after they left Mount Sinai and Paran, seems to have been at Eziongaber; which, being the place from whence Solomon's navy went for gold to Ophir, 1 Kings ix. 26. 2 Chron. viii. 17. we may be induced to take it for the present Meenah el Dsahab, i. e. *the port of gold*. According to the account

\* Διττος δ' εστιν (sc. Sinus Arabicus) ὁ μὲν εἰς ἔχων τὸ πρὸς τὴν Ἀραβίαν καὶ τὴν Γάζαν μέρος, ὃν Ἑλληνικὴν προσκαγορεύουσιν ἀπὸ τῆς ἐν αὐτῇ πόλεως ὁ δ' εἰς τὸ πρὸς Αἰγύπτου κατὰ τὸν Ἡερων πόλιν, εἰς ὃν καὶ Πηλυσίον ἢ ὑπερδυσίον ἐπιτομνίσκον, &c. Strab. l. xvi. p. 1102.

account I had of this place, from the monks of St Catharine, it lies in the gulf of Eloth, betwixt two and three days journey from them, enjoying a spacious harbour, from whence they are sometimes supplied, as I have already mentioned, with plenty of lobsters and shell fish. Meenah el Dsahab therefore, from this circumstance, may be nearly at the same distance from Sinai with Tor, from whence they are likewise furnished with the same provisions ; which, unless they are brought with the utmost expedition, frequently corrupt and putrify. I have already given the distance betwixt the N. W. part of the desert of Sin and Mount Sinai to be **xxi** hours ; and if we further add **iii** hours, (the distance betwixt the desert of Sin, and the port of Tor, from whence these fishes are obtained), we shall have in all **xxiv** hours, *i. e.* in round numbers, about **lx** M. Eziongaber consequently may lie a little more or less at that distance from Sinai ; because the days journies which the Monks speak of, are not perhaps to be considered as ordinary and common ones ; but such as are made in haste, that the fish may arrive in good condition.

In the *Dscript. of the East*, p. 157. Eziongaber is placed to the S. E. of Eloth, and at two or three miles only from it ; which, I presume, cannot be admitted. For as Eloth itself is situated upon the very point of the gulf, Eziongaber, by lying to the S. E. of it, would belong to the land of Midian ; whereas Eziongaber was undoubtedly a sea port in the land of Edom, as we learn  
from

from the authorities above related, viz. where king Solomon is said to have *made a navy of ships in Eziongaber, which is, אֶתְיוֹגָבֶר, beside Eloth, on the shore of the Red Sea, in the land of Edom.* Here it may be observed, that the word אֶתְיוֹגָבֶר, which we render *beside*, viz. Eloth, should be rendered, *together with Eloth*; not denoting any vicinity betwixt them; but that they were both of them ports of the Red Sea, in the land of Edom.

From Eziongaber, the Israelites turned back again to Kadesh, with an intent to direct their marches that way into the land of Canaan. But upon Edom's refusing to give *Israel passage through his border*, Numb. xx. 18. *they turned away from him, to the right hand;* as I suppose, towards Mount Hor, Numb. xx. 21. which might lie to the eastward of Kadesh, in the road from thence to the Red Sea; and as *the soul of the children of Israel* is said to have been here *much discouraged because of the way*, it is very probable that Mount Hor was the same chain of mountains that are now called Accaba by the Arabs; and were the easternmost range, as we may take them to be, of Ptolemy's *μεγαλη ορη* above described. Here, from the badness of the road, and the many rugged passes that are to be surmounted, the Mahometan pilgrims lose a number of camels, and are no less fatigued than the Israelites were formerly, in getting over them.

I have already hinted, that this chain of mountains, the *μεγαλη ορη* of Ptolemy, reached from Paran to Judæa. Petra therefore, according to its  
later

later name, the metropolis of this part of Arabia, may well be supposed to lie among them, and to have been left by the Israelites, on their left hand, in journeying towards Moab. Yet it will be difficult to determine the situation of this city, for want of a sufficient number of geographical data to proceed upon. In the old geography, Petra is placed cxxxv M. to the eastward of Gaza\*, and four days journey from Jericho† to the southward.

But neither of these distances can be any ways accounted for; the first being too great, the other too deficient. For as we may well suppose Petra to lie near, or upon the border of Moab, seven days journey would be the least; the same that the three kings took thither, 2 Kings iii. 9. by fetching a compass, as we imagine, from Jerusalem, which was nearer to that border than Jericho. However, at a medium, Petra lay, in all probability, about the half way betwixt the S. extremity of the Asphaltic Lake and the gulf of Eloth, and may be therefore fixed near the confines of the country of the Midianites and Moabites, at lxxx miles distance from Kadesh towards the N.E. and lxxxv from Gaza to the S. According to Josephus, it was formerly called Acre‡, which Bochart supposes

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\* Nabathæorum oppidum Petra abest a Gaza, oppido litoris nostri, dc M. a sinu Persico cxxxv M. Plin. J. vi. c. 28. Inverte nomina: a Gaza cxxxv. &c. Sic numeri melius constabunt, et ceteris tam geographis, quam historicis, conciliari poterunt. Cellar. Geogr. Antiq. l. iii. p. 418.

† Strab. l. xvi. p. 1105-6.

‡ Jos. Antiq. l. iv. c. 4.

to be a corruption of *Rekem* \*, the true and ancient name. The Amalekites †, so frequently mentioned in Scripture, were once seated in the neighbourhood of this place; who were succeeded by the Nabathæans, a people no less famous in profane history.

From Mount Hor, the direction of their marches through Zalmona, Punon, &c. seems to have been betwixt the N, and N.E. For it does not appear that they *wandered* any more *in the wilderness, out of the direct way*, that was to conduct them through the country of Moab, Num. xxxiii. 48, 49. into the land of promise.

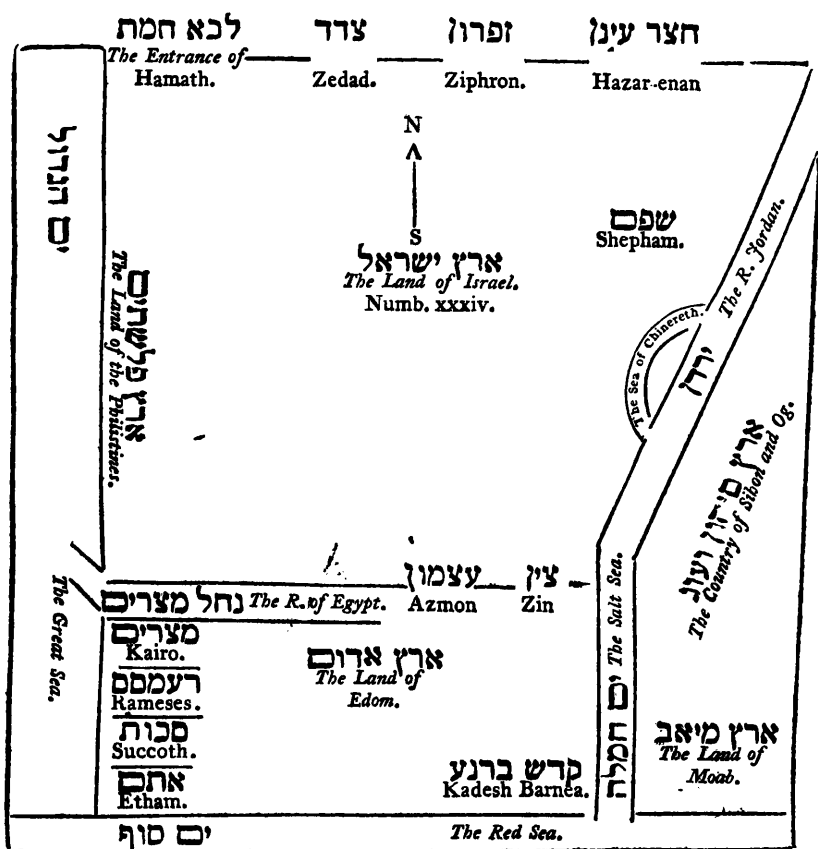
In the Rabbinical geography ‡, several of the places which have been taken notice of in this, and in the foregoing chapter, are laid down in the following manner :

\* *Rekam vel Rakim est Petra urbs, aliis Rocom, Recem, Raceme, et, præfixo articulo, Arceme, et per apocopen Arce, Petrææ scilicet metropolis* רַקִּים *Hagar, i. e. Petra à situ dicta, quia in ea domus excisæ sunt in Petra. Et Rekem a conditore rege Madian; de quo Num. b. xxxi. 8. Hinc Josephus, l. iv. c. 7. ita habet de Recemo rege Madian: רַעְמֹס, ἡ πόλις ἐπάνωμος τοῦ παν ἀξιωμα τοῦ Ἀραβῶν ἔχουσα γῆς. Et rursus Ἀραβική καλεῖται Πέτρα, παρ' Ἑλλήσι λεγομένη. Et Eusebius de locis: Ρακίμ, αὕτη ἐστὶ Πέτρα, πόλις τῆς Ἀραβίας, ἧς ἐκασίλευσεν Ροκὸς. Vid. Boch. Can. lib. i. cap. 44.*

† *Οἱ τὸν Γοβαλίτην καὶ τὴν Πέτραν κατοικοῦντες, οἱ καλεῖνται μὲν Ἀμαληκίται. Jos. Antiq. Jud. l. iii. c. 2. Nabatæi oppidum incolunt Petram nomine, &c. Plin. l. vi. c. 28. Vid. not. \*, p. 121.*

‡ Vid. Rabbi Eliæ Mizrachi Comment. in Pentateuchum. Ven. 1545, p. 57.







*Physical & Miscellaneous*

O B S E R V A T I O N S

IN

*SEVERAL PARTS*

OF THE

L E V A N T.



VOLUME II.—PART II.



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## CHAPTER I.

*Physical Observations, &c. or an Essay towards  
the Natural History of Syria, Phœnice, and the  
Holy Land.*

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THE air and weather, in these countries, differ very little from the descriptions that have been given of them in the *natural history of Barbary*\*. For among many other particulars of the like nature and quality, which need not be repeated, we find the westerly winds to be here attended with rain. *When we see a cloud*, says our Saviour, Luke xii. 54. *rise out of the west, straightway ye say, There cometh a shower, and so it is*†. But the easterly winds are usually dry, notwithstanding they are sometimes exceeding hazy and tempestuous; at which times they are called, by the seafaring people, Levanters, being not confined to any one single point, but blow in all directions, from the N. E. round by the N. to the S. E. The *great wind*, or *mighty tempest*, or *vehement east wind*, described by the prophet Jonas, (i. 4. and iv. 8.) appears to have been one of these Levanters.

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\* Vid. p. 245, &c.

† This branch of the natural history is further taken notice of, 1 Kings xviii. 41, &c.

The Euroclydon \* also, which we read of in the history of St Paul, (Acts xxvii. 14.) was, in all probability, the same. For it was, as St Luke describeth it, *ανιμος τυφωνικος* †, a *violent* or *tempestuous wind*, bearing away all before it; and, from the circumstances which attended it, appears to have varied very little, throughout the whole period of it, from the true east point. For after the ship could not, *αποφθαλμεν*, *bear*, or in the mariner's term, *loof up against it*, ver. 15. but *they were obliged to let her drive*, we cannot conceive, as there are no remarkable currents in this part of

\* *Ευρεκλυδων*, according to the annotations of Erasmus, Vatablus, and others, is said to be, *vox hinc ducta, quod ingentes fluctus*; as if those commentators understood it to have been, as Phavorinus writes it (*in voce Τυφω*) *Ευρεκλυδων*, and, as such, compounded of *εὐρος*, (*latius, amplius, &c.*) and *κλυδων*, *fluctus*. But rather, if an etymology is required, as we find *κλυδων* used by the LXXII, (Jon. i. 4, 12.) instead of *γυδ*, which always denotes a *tempest*, as I conjecture, properly so called, *Ευρεκλυδων* will be the same with *Ευρε κλυδων*, i. e. an *eastern tempest*, and so far express the very meaning that is affixed to a *Levanter* at this time.

† Though *Τυφω* or *Τυφως* may sometimes denote a *whirlwind*, yet it seems in general to be taken for any violent wind or tempest. According to an observation of Grotius upon the place, *Judæis Hellenistis Τυφως est quavis violentior procella*. *Τυς γαρ καταγινώσκεις ανεμην Τυφως καλῆσι*, says Suidas. Aristot. *De Mundo*, c. 4. seems to distinguish it from the *Πρηστηρ* (which he calls a *violent strong wind*), by not being attended with any fiery meteors. *Εαν δι (πνευμα) ημικυρον η, σφοδρον δι κλλως και αδρσον, Πρηστηρ [καλεται] ιαν δι απυρον η παντιλας, Τυφω*. *Τυφω*, as Olym-piodorus, in his comment upon the foregoing passage, instruct us, is so called, *δια το τυπτειν δια τη ταχυς τη πνευματος*; or *δια το τυπτειν σφοδρως*, as we read it in C. a Lapide. Acts xxvii. 14. *Τυφω γαρ εστι η τυ ανεμς σφοδρα πιση* ος και ευρεκλυδων καλεται. Phavor. in lex. One of these *Levanters* is beautifully described by Virgil (Geor. ii. ver. 107.) in the following lines:

.....Ubi navigiis violentior incidit Euris,  
Nosse, quot loni veniant ad litora fluctus.

of the sea, and as the rudder could be of little use, that it could take any other course, than as the winds alone directed it. Accordingly, in the description of the storm, we find the vessel was first of all *under the island Claudia*, ver. 16. which is a little to the southward of the parallel of that part of the coast of Crete, from whence it may be supposed to have been driven; then it was tossed along the bottom of the Gulf of Adria, ver. 27.; and afterwards broken to pieces, ver. 41. at Melita, which is a little to the northward of the parallel above mentioned; so that the direction and course of this particular Euroclydon seems to have been first at E. by N. and afterwards pretty nearly E. by S.

But Grotius\*, Cluver†, and others, authorised herein by the Alexandrian MS. and the Vulgate Latin, are of opinion, that the true reading should be *Ευροακυλον*, *Euroaquilo*; a word indèed as little known as Euroclydon, though perhaps less entitled to be received. For this Euroaquilo, agreeable to the words of which it is compounded, must have been a wind betwixt the Euræ and the Aquilo, and consequently would be the same

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\* Vid. Grot. Annot. in Act. xxvii. 14.

† Ego amplectendam hæc omnino censeo vocem, quam divus Hieronymus et ante hunc auctor Vulgatæ sacrarum bibliarum versionis, in suis exemplaribus legerunt *Ευροακυλον*, *Euroaquilo*, quod vocabulum ex duabus vocibus, altera Græca *Ευρα*, altera Latina Aquilo, compositum, eum denotat ventum, qui inter Aquilonem et Eurum medius spirat, qui recta ab meridionali Crætæ latere navim infra Gaudum versus Syrtin abripere peterat. Cluv. Sicil. Antiq. l. ii. p. 442.

with the *Cæcias*\* or *Καικίας*; a name so frequently taken notice of by the Roman authors, that it appears to have been adopted into their language. Thus we find Vitruvius (l. i. c. 6.) describing the position of the *Cæcias*, without distinguishing it by Greek characters, or making any apology for the introduction of a foreign name. Pliny† likewise calls the same wind *Hellespontias*‡, as blowing from the Hellespont. The *Cæcias* therefore must have been known very early in the Roman navigation; and consequently, even provided the mariners had been Romans, there was no necessity at this time, and upon such an occasion, for the introduction of *Euroaquilo*, which must have been altogether || a new term.

Besides, as we learn, Acts xxvii. 6. that the ship was of Alexandria, sailing to Italy, the mariners may well be supposed to have been Grecians, and must therefore be too well acquainted with the received and vernacular terms of their occupation, to admit of this Græco-Latin, or barbarous appellation. For it may be very justly objected, that, provided the *Euroaquilo* had been

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\* Ab oriente solstitiali excitatum, Græci *Καικίας* appellant: apud nos sine nomine est. Senec. Nat. Quæst. l. v. c. 16. Euri vero medias partes tenent; in extremis, *Cæcias* et *Vulturius*. Vitr. Arch. l. i. c. 6.

† Vid. Plin. Nat. Hist. l. ii. c. 47.

‡ *Cæcias* aliqui vocant *Hellespontian*. Plin. *ibid.* *Καικίας*, ὁ *Ελλησποντίας* ὡς καλεῖται. Arist. Meteor. l. ii. c. 6.

|| *Cæcias* media inter Aquilonem et exortum æquinocbialem, ab ortu solstitiali. Plin. ut supra.







a name so early received as this voyage of St Paul, it is much that Pliny, A. Gellius, Apuleius, Isidore, and other authors, who wrote expressly upon the names and diversities of winds\*, should not have taken the least notice of this. Whereas, if Euroclydon be a term or appellation peculiar to the mariners, denoting one of these strong Levanters, we are to be the less surprised why St Luke, who was actually present in the storm, and may be supposed to have heard the very word, is the only author who records it. Moreover, when we are told that this tempestuous wind was called Euroclydon, the expression seems to suppose it not to have been one of the common winds, such as were entirely denominated from their site and position, but such an one as received its name from some particular quality and circumstance which over and above attended it.

I never observed any phenomena that were more peculiar to the Cæcias, (the N. E. by E. wind, as we will suppose it), than to any other Levanter. Aristotle indeed, who is partly followed herein by Pliny †, describes it ‡ to have a property contrary to all other winds, *αντικαταρττει εις*

*δυστη;*

\* Vid. Plin. Nat. Hist. l. ii. c. 47. Aul. Gell. Noct. Attic. l. ii. c. 22. Apul. de Mundo. Isid. Orig. l. xlii. c. 16.

† Narrant et in Ponto Cæcian in se trahere nubes. Plin. Nat. Hist. l. ii. c. 46.

‡ Ο δὲ Καικίας ἢ κισπίας, ὅτι ἀντικαταρττει ἡς ἀπὸ τῆς ἑσπέρης καὶ λήγει ται ἡ παροίμια, Ἐλεων ἐφ' αὐτοὺς ὅσπερ Καικίας πρὸς; Arist. Meteorol. l. ii. c. 6.

αυτον, of drawing, as A. Gellius\* interprets it, *the clouds to itself*. But this is an expression, as well as quality, which it will be difficult to comprehend, unless we may presume to explain it, by what, indeed it has only in common with other Levanters, either the haziness of the atmosphere that accompanies it, or else by the great accumulation of clouds, which, to use the mariner's phrase, frequently *hang*, without dissipating, for several days together, *in the east wind's eye*. For at other times, these, no less than the opposite winds, are, even by Aristotle's confession †, attended with long successions of clouds, driving each other forward with great force and impetuosity.

We are to observe further, with regard to these Levanters, that when they are of a long continuance, the water is blown away to such a degree from the coast of Syria and Phœnice, that several ranges of rocks, which, in westerly winds, lie concealed under water, do now become dry, and thereby leave exposed to the water fowl,urchins, limpets, and other shell-fish, which fix themselves

\* Viz. l. ii. c. 22. Aristoteles ita flare dicit Cæcian, ut nubes non procul propellat, sed ut ad sese vocet, ex quo verum istum proverbiale factum ait :

Κακα

Εφ' ἑαυτον ἔλκον ὡς ὁ Καικίας νεφός.

† Νέφουσι δὲ πυκνεύει τὸν ὕδατος, Καικίας μὲν σφοδρὰ, Λεψ' δ' ἀραιότερος· Καικίας μὲν διὰ τὴν ἀνακαμπτικὴν πρὸς αὐτὸν, καὶ διὰ τὸ κοίτος εἶναι βορρῆ καὶ Εὐρῆ. Ὡς διὰ μὲν τὸ ψυχρὸς εἶναι πῆγνυς τὸν ὠτρύνοντα αἶρα, εἰς νέφη συνίστησι· διὰ δὲ τὸ τῶν τοπικῶν ἀπυλιντικὸς εἶναι, ἔχει πολλήν ὕλην καὶ σπριμδα, ἣν προωθεῖ. Aristot. ut supra.

themselves upon them. I observed, in the port of Latikea, that, during the continuance of these winds, there was too feet less depth of water than some days afterwards, when the weather was moderate, and the winds blew softly from the west. And it is very probable, that the remarkable recess of water in the Sea of Pamphylia, that has been taken notice of by Josephus and others \*, may be accounted for from the same cause, operating only in an extraordinary manner.

It may be further observed, with regard to these Levanters, that vessels or other objects which are seen at a distance, appear to be vastly magnified, or to *loom*, in the mariner's expression. Neither is a superstitious custom to be omitted, which I have seen practised more than once by the Mahometans, during the raging of these and other tempestuous winds. For upon these occasions, after having tied to the mast, or ensign-staff, some apposite paragraph of their Koran †, they collect money, sacrifice a sheep, and throw them both into the sea; being persuaded that they will thereby assuage the violence of the waves, and the fury of the tempest. We learn from Aristophanes and Virgil ‡, that the Greeks,

some

\* Vid. not. \*, p. 9.

† I had the curiosity once to take down one of these scrolls, and found it to be of the same import with the latter part of our cviith Psalm, *viz.* 'Those that go down to the sea in ships, and 'occupy their business in great waters,' &c.

‡ 'Αρν', ἀρνα μιλκιναν, παιδι, εξηγκατε·  
Τυφως γαρ ιωβαιεν παρμασκισζεται.

Aristoph. in Ran. Act. iii. Sc. ii.



some thousand years ago, made use of the same ceremony. The like transaction too, though after the storm, is recorded by the prophet Jonas, i. 16.

But, to pursue the natural history of this country, the mountains of Libanus are covered all the winter with snow; which, when the winds are easterly, affects the whole coast, from Tripoly to Sidon, with a more subtile and piercing cold than what is known in our northern climates. Whereas the other maritime and inland places, either to the N. or S. of these mountains, enjoy a much milder temperature, and a more regular change in the seasons.

In cloudy weather, especially when the winds are tempestuous, and blow, as they often do in these cases, in several directions, water-spouts are more frequent near the Capes of Latikea, Grægo, and Carmel, than in any other part of the Mediterranean. Those which I had the opportunity of seeing, seemed to be so many cylinders of water, falling down from the clouds; though, by the reflection it may be of these descending columns, or from the actual dropping of the water contained in them, they would sometimes appear, especially at a distance, to be sucked up from the sea. Nothing more perhaps is required to explain

— Meritos aris mactavit honores :

Taurum Neptuno ; taurum tibi, pulcher Apollo.

Virg. *Æn.* iii. 118.

Nigram Hyemi pecudem, Zephyris felicibus albam.

Tres Eryci vitulos, et Tempestatibus agnam

Cædere deinde jubet.

*Id. Ibid.* v. 772.

explain this phenomenon, than that the clouds should be first of all crowded together, and then that contrary winds, pressing violently upon them, should occasion them to condense, and fall in this cylindrical manner. Surely they cannot be accounted for, according to Lemery's supposition\*, from submarine earthquakes and eructations; neither will the Siphonic winds†, if there be any such, much better solve the difficulty.

In travelling by night, in the beginning of April, through the vallies of Mount Ephraim, we were attended, for above the space of an hour, with an *ignis fatuus*, that displayed itself in a variety of extraordinary appearances. For it was sometimes globular, or else pointed like the flame of a candle; afterwards it would spread itself, and involve our whole company in its pale, inoffensive light; then at once contract, and suddenly disappear. But in less than a minute, it would begin again to exert itself, as at other times, running along from one place to another with great swiftness, like a train of gun-powder set on fire; or else it would spread and expand itself over more than two or three acres of the adjacent mountains, discovering every shrub and tree (*the thick bushes*, Psal. xxix. 9.) that grew upon them. The atmosphere, from the beginning of the evening,

\* 'When hurricanes come from those places of the earth which are under the sea, they raise the waters into prodigious pillars; the same are called spouts at sea.'---Lemery's *Course of Chemistry*, edit. 4. p. 116.

† Τυφώνας και Σιφωνίας καλῶσι δια το ὕδωρ πολλὰκις ἀνισπανοι. Olymp. in Arist. Meteor.

ning, had been remarkably thick and hazy, and the dew, as we felt it upon our bridles, was unusually clammy and unctuous. I have observed at sea, in the like disposition of weather, those luminous bodies that skip about the masts and yards of ships, which are called *Corpusanse*\* by the mariners, and were the *Castor* and *Pollux* of the ancients. Some authors have accounted, particularly for the *ignis fatuus*, by supposing it to be occasioned by successive swarms of flying glow-worms, or other luminous insects. But not to perceive or feel any of these insects, even whilst the light, which they are supposed to occasion, spreads itself round about us, should induce us to account both for this phenomenon, and the other, from the received opinion of their being actually meteors, or a species of natural phosphorus.

The first rains in these countries, usually fall about the beginning of November; the latter sometimes in the middle, sometimes towards the end of April. It is an observation at, or near Jerusalem, that provided a moderate quantity of snow falls in the beginning of February†, whereby the fountains are made to overflow a little afterwards, there is the prospect of a fruitful and plentiful year; the inhabitants making, upon these

\* A corruption of *Cuerpo santo*, as this meteor is called by the Spaniards. Plin. l. ii. c. 37.

† As the month of February is the usual time at Jerusalem for the falling of snow, it might have been at that particular season when Benaiah is said, 1 Sam. xxiii. 20. to have gone down and smote a lion in the time of snow.



these occasions, the like rejoicings \* with the Egyptians, upon the cutting of the Nile. But during the summer season, these countries are rarely refreshed with rain †; enjoying the like serenity of air that has been mentioned in Barbary.

Barley, all over the Holy Land, was in full ear in the beginning of April; and about the middle of that month it began to turn yellow, particularly in the southern districts; being as forward near Jericho in the latter end of March, as it was in the plains of Acre, a fortnight afterwards. But wheat was very little of it in ear at one or other of those places; and in the fields near Bethlehem and Jerusalem, the stalk was little more than a foot high. The Boccôres likewise, or first ripe figs, were hard, and no bigger than common plumbs; though they have then a method of making them soft and palatable, by steeping them in oil. According therefore to the quality of the season, in the year 1722, the *first fruits* could not have been offered at the time appointed; and would therefore have required the intercalating ‡ of the *ואדר* *Ve-ader*, and post-

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poning

\* The rejoicings that were used upon these occasions, seem to have been very great, even to a proverb; as we may infer from Psal. iv. 7. *Lord, thou hast put gladness in my heart, more than at the time when the corn and wine increased.*

† This known quality of the summer season is appealed to, 1 Sam. xii. 17. *Is it not wheat harvest to-day? I will call unto the Lord, and he shall send thunder and rain:* which must have been looked upon as an extraordinary phenomenon at that time of the year.

\* על שלשה סימנים מעבדי את השנה &c. i. e. Propter

poning thereby the passover for at least the space of a month.

The soil both of the maritime and inland parts of Syria and Phœnice, is of a light loamy nature, little different from that of Barbary, and rarely requires more than one pair of beeves to plough it. Besides all sorts of excellent grain, and such vegetable diet as has been described in the fruit and kitchen gardens of Barbary, the chief produce of these countries is silk and cotton. The inhabitants send the eggs of the silk worm, as soon as they are laid, to Cannobine, or some other place of Mount Libanus, where they are kept cool, without danger of hatching, till the mulberry buds are ready for them in the spring. The same caution is used at Limesole, and other places which I have seen, in the island of Cyprus, by preserving them upon Mount Olympus, which they call Jibbel Krim, i. e. *the great mountain*. The whole economy and management of the silk worm is at present so well known, that nothing need be added upon that subject.

Though

Propter tres casus intercalabant in anno; propter epocham anni solaris; propter fruges maturas; et propter fructus arborum. Si Judices animadvertissent nondum maturas esse fruges, sed adhuc serotinas esse, neque fructus arborum, quibus mos est tempore paschali florere; illis duobus argumentis nitebantur et intercalabant in anno. Ac quanquam Epochæ anni antevertebat sextam decimam mensis Nisan, tamen intercalabant, ut frumentum maturum esset, ex quo offerretur manipulus in XVI Nisan, et ut fructus florent more omnium.—Judices computo inq̃to sciebant si Tekuphæ Nisan esset in sextadecima Nisan aut post; et intercalabant in eo anno, mutato Nisan in Adar geminum, nimirum ut Pesach incideret in tempus frugum maturarum, &c. Maimonid: apud J. Scalig. de Emendat. Temp. l. ii. p. 104.

Though the corn, which is produced near Lattikea, is the best and the most early of that part of Syria, yet of late the inhabitants have neglected this branch of husbandry, together with that of the vine, (for both of which it was formerly famous \*), and employ themselves chiefly in the more profitable culture of tobacco. This is a very considerable, and indeed the only article of trade, which has in a few years so greatly enriched this city, and the country round about it. For there is shipped off every year, from hence to Dami-ata and Alexandria, more than twenty thousand bales, to the no small diminution of that branch of trade at Salonica.

The Holy Land, were it as well inhabited and cultivated as formerly, would still be more fruitful than the very best part of the coast of Syria or Phœnice. For the soil itself is generally much richer, and all things considered, yields a more preferable crop. Thus the cotton that is gathered in the plains of Ramah, Esdraelon, and Zabulon, is in greater esteem than what is cultivated near Sidon and Tripoly; neither is it possible for pulse, wheat, or grain of any kind, to be richer or better tasted, than what is commonly sold at Jerusalem. The barrenness, or scarcity rather, which some authors † may either ignorantly

\* Vid. not. \*, vol. ii. p. 9.

† Michael (Villanovanus) Servetus, in his edition of Ptolemy, Lugd. 1535, hath, in the description which he annexes to the table of the Holy Land, the following words: 'Scias tamen, Lector optime, injuria aut jactantia pura tantam huic terræ bonitatem fuisse adscriptam, eo quod ipsa experientia mercatorum et peregre

rantly or maliciously complain of, does not proceed from the incapacity, or natural unfruitfulness of the country, but from the want of inhabitants, and from the great aversion likewise there is to labour and industry, in those few who possess it. There are besides such perpetual discords and depredations among the petty princes, who share this fine country, that, allowing it was better peopled, yet there would be small encouragement to sow, when it was uncertain who should gather in the harvest. Otherwise the *land is a good land*, and still capable of affording to its neighbours the like supplies of corn and oil, which it is known to have done in the time of Solomon\*.

The parts particularly about Jerusalem, as they have been described to be, and indeed, as they actually are, rocky and mountainous, have been therefore supposed to be barren and unfruitful. Yet granting this conclusion, which however is far

‘peregri proficiscentium, hanc incultam, sterilem, omni dulcedine carentem depromit. Quare Promissam terram pollicitam et non vernacula lingua laudantem pronuncies,’ &c. Vid. *New Memoirs of Literature*, vol. i. p. 26. &c. But among many other travellers, who have strongly asserted the contrary, I shall subjoin the following observations of P. de la Valle upon this country, which agree exactly with mine. ‘Il paese, per donde caminavamo era bellissima. Tutte collini, valli e monticelli fruttiferi. Le convalle de Mambre e a punto comme tutti gli altri paesi diutorno, che quantunque montuosi e sassosi sono pero fertilissimi.’ Let. xiii. ‘Le Montagne e Valli bien che siano alpestri sono nondimeno tutte fruttifere per la diligenza degli agricoltori.’ *Id.* Let. iii.

\* *Solomon gave Hiram twenty thousand measures of wheat for food to his household, and twenty measures of pure oil: thus gave Solomon to Hiram year by year, 1 Kings v. 11.*

far from being just, a kingdom is not to be denominated barren or unfruitful from one single portion of it, but from the whole. And besides, the blessing that was given to Judah, was not of the same kind with the blessing of Asher or of Issachar, that *his bread should be fat*, or *his land should be pleasant* ; but that *his eyes should be red with wine*, and *his teeth should be white with milk*, Gen. xlix. 12. Moses also makes milk and honey, (the chief dainties and subsistence of the earlier ages, as they still continue to be of the Bedoween Arabs), to be *the glory of all lands* ; all which productions are either actually enjoyed, or at least might be obtained by proper care and application. The plenty of *wine* alone is wanting at present. Yet we find, from the goodness of that little which is still made at Jerusalem and Hebron, that these barren rocks, as they are called, would yield a much greater quantity, provided the abstemious Turk and Arab should permit the vine to be further propagated and improved.

Wild honey, which was part of St John Baptist's food in the wilderness, may insinuate to us the great plenty of it in those deserts ; and that consequently, by taking the hint from nature, and enticing the bees into hives and larger colonies, a much greater increase might be made of it. Accordingly Josephus\* calls Jericho *μυδική πόλις*. We find moreover, that *wild honey* was often mentioned in Scripture. *And all they of the land came to a wood, and there was honey upon the*

\* Bell. Jud. l. v. c. 4.

the ground; and when the people were come to the wood, behold the honey dropped, 1 Sam. xiv. 25, 26. He made him to suck honey out of the rock, Deut. xxxii. 14. *With honey out of the stony rock have I satisfied thee*, Psal. lxxxix. 16. Diodorus Siculus (l. xix.) speaks of the *μυλι αγγελου*, that dropped from trees, which some have taken perhaps too hastily for a honey dew only, or some liquid kind of manna. Whereas bees are known to swarm, as well in the hollow trunks, and upon the branches of trees, as in the cliffs of rocks; honey therefore may be equally expected from both places.

As the mountains likewise of this country abound in some places with thyme, rosemary, sage, and aromatic plants\* of the like nature, which the bee chiefly looks after, so they are no less stocked in others with shrubs and a delicate short grass†, which the cattle are more fond of than of such as is common to fallow ground and meadows. Neither is the grazing and feeding of cattle peculiar to Judea; it is still practised all over Mount Libanus, the Castravan Mountains, and Barbary, where the higher grounds are  
appro-

\* *Hæc circum [alvearia] casæ virides, et olentia late  
Serpilla, et graviter spirantis copia thymbræ  
Floreat : irriguumque bibant violaria fontem.*

*Virg. Georg. iv. ver. 30.*

† *At cui lactis amor, oytisum, lotosque frequentes  
Ipse manu, salsasque ferat præsepibus herbas.*

*Virg. Georg. iii. ver. 394.*

*Si tibi lanicium curæ :*

*fuge pabula læta.*

*Id. ibid. ver. 384.*

appropriated to this use, as the plains and vallies are reserved for tillage. For, besides the good management and economy, there is this further advantage in it, that the milk of cattle fed in this manner, is far more rich and delicious, at the same time their flesh is more sweet and nourishing.

But even laying aside the profits that might arise from grazing, by the sale of butter, milk, wool, and the great number of cattle that were to be daily disposed of, particularly at Jerusalem, for common food and sacrifices, these mountainous districts would be highly valuable even upon other considerations ; especially if they were planted with olive trees, one acre of which is of more value than twice the extent of arable ground. It may be presumed likewise, that the vine was not neglected in a soil and exposition \* so proper for it to thrive in ; but indeed, as it is not of so durable a nature as the olive tree, and requires moreover a continual culture and attendance † ; the scruple likewise which the Mahometans entertain, of propagating a fruit that may be applied

\* -----Juvat Ismara Bacchó  
Conserere, atque olea magnum vestire Taburnum.  
Virg. Georg. ii. ver. 37.

† Jam vinctæ vites, jam falcem arbusta reponunt,  
Jam canit extremos effœtus vinitor antes ;  
Sollicitanda tamen tellus, pulvisque movendus :  
Et jam maturis metuendus Jupiter uvis.  
Contra, non ulla est oleis cultura : neque illæ  
Procurvam expectant falcem, rastrosque tenacés,  
Cum semel hæserunt arvis.  
Virg. Georg. ii. ver. 516.

plied to uses forbidden by their religion, are the reasons perhaps why there are not many tokens to be met with, except at Jerusalem and Hebron\*, of the ancient vineyards. Whereas the general benefit arising from the olive tree, the longevity and hardiness of it have continued down to this time several thousands of them together, to mark out to us the possibility, as they are undoubtedly the traces, of greater plantations. Now, if to these productions we join several large plats of arable ground, that lie scattered all over the vallies and windings of the mountains of

\* Besides the great quantity of grapes and raisins that are, one or other of them, brought daily to the markets of Jerusalem, and the neighbouring villages, Hebron alone sends every year to Egypt, three hundred camel-loads, (*i. e.* near two thousand quintals) of the *Robb*, which they call (דבש) *Dibse*; the same word that is rendered simply *honey* in the Scriptures; particularly Gen. xliii. 11. *Carry down the man a present of the best things of the land, a little balm, and a little dipse.* For honey, properly so called, could not be a rarity so great there as *dipse* must be, from the want of vineyards in Egypt. In Lev. ii. 11. *honey* seems to be of several sorts; *Ye shall burn no leaven, nor any kind of honey in any offering.* For besides the *honey of grapes, of bees, and of the palm, or dates, the honey of the reed or sugar* might be of great antiquity. Thus יער, Cant. v. 1. which we render the *honey-comb*, is by some interpreters taken for a *reed*, or the μέλι καλάμινος, or *mel arundinis*. Strabo mentions *sugar* as a succedaneum to the honey of bees: Ειρηκε δι και περι καλάμιν, ότι ποιουσι μελι, μελισσαν μη κων. lib. xi. Dioscorid. lib. ii. cap. 104. Σακχαρος ειδος μελιτος εν Ινδια πιτηγος, και τη ευδαμωνι Αραβια ευρισκομενοι επι των καλάμων.

Quique bibunt tenera dulces ab arundine succos.----*Lucan.*

Hebron has the title of Hhaleel, *i. e.* the *chosen* or *beloved*, among the Arabs; where the Mag-gar el Mamra, *cave of Mamre or Mackpelah*, Gen. xxiii. 17. is still shewn, and is always lighted up with lamps, and held in extraordinary veneration by the Mahometans.



of Judah and Benjamin, we shall find that the lot, (even of these tribes, which are supposed to have had the most barren part of the country), *fell to them in a fair ground, and that theirs was a goodly heritage.*

The mountainous parts therefore of the Holy Land, were so far from being inhospitable, unfruitful, or the refuse of the Land of Canaan, that, in the division of this country, the mountain of Hebron was granted to Caleb as a particular favour, Josh. xiv. 12. We read likewise, that in the time of Asa, this hill-country of Judah (2 Chron. xiv. 8.) mustered five hundred and eighty thousand men of valour; an argument beyond dispute that the land was able to maintain them. Even at present, notwithstanding the want there has been for many ages of a proper culture and improvement, yet the plains and valleys, though as fruitful as ever, lie almost entirely neglected, whilst every little hill is crowded with inhabitants. If this part therefore of the Holy Land was made up only, as some object, of naked rocks and precipices, how comes it to pass, that it should be more frequented than the plains of Esdraelon, Ramah, Zabulon, or Acre, which are all of them very delightful, and fertile beyond imagination? It cannot be urged that the inhabitants live with more safety here than in the plain country, in as much as there are neither walls nor fortifications to secure their villages or encampments; there are likewise few or no places of difficult access; so that both of them lie

equally exposed to the insults and outrages of an enemy. But the reason is plain and obvious, in as much as they find here sufficient conveniences for themselves, and much greater for their cattle. For they themselves have here *bread to the full*, whilst their cattle brouze upon richer herbage; and both of them are refreshed by springs of excellent water, too much wanted, especially in the summer season, not only in the plains of this, but of other countries in the same climate. This fertility of the Holy Land which I have been describing, is confirmed from authors of great repute, whose partiality cannot in the least be suspected in this account. Thus Tacitus, (l. v. c. 6.) calls it *uber solum*; and Justin, (Hist. l. xxxvi. c. 3.) *sed non minor loci ejus apricitatis quam ubertatis admiratio est.*

I travelled in Syria and Phœnice in December and January, and therefore had not a proper season for botanical observations. However, the whole country looked verdant and cheerful; and the woods particularly, which are chiefly planted with the gall-bearing-oak, (*gallæ Syriacæ* are taken notice of by Vegetius, *De re Rustica*, ii. 62.) were strewed all over with a variety of anemones, ranunculusses, colchicas, and mandrakes. Several pieces of ground near Tripoly were full of liquorice; and at the mouth of a famous grotto near Bellmont, there is an elegant species of the blue lily, the same with Morison's *lilium Persicum florens*. In the beginning of March, the plains, particularly betwixt Jaffa and Ramah, were every  
where

where planted with a beautiful variety of fritillaries, tulips, and other plants of that and of different classes. But there are usually so many dangers and difficulties which attend a traveller through the Holy Land, that he is too much hastened to make many curious observations, or to collect the variety of plants, or the many other natural curiosities of that country.

The mountains of Quarantania afford a great quantity of yellow polium, and some varieties of thyme, sage, and rosemary. The brook likewise of Elisha, which flows from it, and waters the gardens of Jericho, together with its plantations of plum\* and date trees, has its banks adorned with several species of brooklime, lysimachia, water-cress, betony, and other aquatic plants; all of them very nearly resembling those of our own island. And indeed the whole scene of vegetables, with the soil that supports them, has not those particular differences and varieties that might be expected in two such distant climates. Neither do I remember to have seen or heard of any plants but such as were natives of other places. For the balsam tree no longer subsists; and the musa †, which some authors ‡ have supposed

\* Of the fruit of this tree is made the oil of Zaccane. Vid. Maundrell's Journ. p. 86. edit. 2. The tree is thus described, Casp. Bauh. Plin. p. 444. 'Prunus Hierichontica folio angusto spinoso. Zaccan dicitur, quia in planitie Hierichontis non longe ab ædibus Zaccæi crescit. Cast.

† *Mous*, commonly called the Bananna, or Plantain tree.

‡ Vid. Ludolphi Hist. Æthiop. lib. i. cap. 9. & Comment. p. 139. &c.

posed to be the dudaim, or *mandrakes*, as we interpret it, is equally wanting; neither could it, I presume, from the very nature and quality of it, ever grow wild\* and uncultivated, as the dudaim must certainly have done. Others† again, as the dudaim (from דודא) are supposed to denote something amiable or delightful, have taken them for cherries, and that the doudai (דודאי) consequently, which we interpret *baskets*, Jer. xxiv. 1. were made of the cherry tree. But the same, with equal reason, might have been asserted of the plum, or of the apricot, or of the peach, or of the orange or lemon, which might have been as rare, and no less delightful than the cherry; though it is more probable, that none of these fruits were known in Judea in those early times, not having been propagated so far to the westward, till many ages afterwards. However, what the Christians of Jerusalem take at present for dudaim, are the pods of the jelathon, a leguminous plant peculiar to the corn fields, which, by the many descriptions I had of it, (for it was too early, when I was there, to see it), it should be a species of the winged pea; probably the hierazune, or the lotus tetragonolobus. In no small conformity likewise with this account, the melilotus odorata violacea of Morison, the lotus hortensis odorata of C. B. and the lotus sativa, odorata,

\* *And Reuben went in the days of wheat harvest, and found mandrakes in the field, and brought them to his mother Leah, Gen. xxx. 14.*

† Vid. Mat. Hilleri Hierophyticon, in cap. De dudaim.

rata, flore cœruleo of J. B. have been taken for the dudaim. It is certain that the bloom of all, or most of the leguminous plants, *yields a grateful smell*, Cant. vii. 13. a quality which they have so far at least in common with the dudaim.

The boccôre, which has before been mentioned, vol. i. p. 264. was far from being in a state of maturity in the latter end of March; for, in the Scripture expression, *the time of figs was not yet*, (Mark xi. 13.) or not till the middle or latter end of June. The *καιρος*, or *time* here mentioned, is supposed, by some authors, quoted by F. Clusius in his *Hiero-botanicon*, to be the third year; in which the fruit of a particular kind of fig-tree comes to perfection. But this species, if there is any such, needs to be further known and described. Dionysius Syrus, as he is translated by Dr. Loftus, is more to the purpose: *It was not the time of figs*, because, says he, it was the month Nisan, when trees yielded blossoms, and not fruit. However, it frequently falls out in Barbary, and we need not doubt of the like in this hotter climate, that according to the quality of the preceding season, some of the more forward and vigorous trees will now and then yield a few ripe figs, six weeks or more before the full season. Something like this may be alluded to by the prophet Hosea, ix. 10. when he says, he *saw their fathers as (boccôres) the first ripe in the fig-tree at her first time*.

When the boccôre draws nearer to perfection,  
then

then the karmouse, the summer-fig, or caricae, (the same that are preserved), begin to be formed, though they rarely ripen before August; at which time, there appears a third crop, or the winter fig as we may call it. This is usually of a much longer shape, and darker complexion than the karmouse, hanging and ripening upon the tree, even after the leaves are shed; and, provided the winter proves mild and temperate, is gathered as a delicious morsel in the spring. We gather from Pliny, (l. xvi. c. 26.) that the fig-tree was *bifera*, or bore two crops of figs, *viz.* the *boccôre*, as we may imagine, and the karmouse; though what he relates afterwards, (c. 27.) should insinuate that there was also a winter crop. ‘*Seri fructus per hiemem in arbore manent, et æstate inter novas frondes et folia maturescunt.*’ ‘*Fi- cus alterum edit fructum* (says Columella, *de Arb.* c. 21.) *et in hiemem seram differet maturitatem.*’ It is well known, that the fruit of these prolific trees always precedes the leaves; and consequently, when our Saviour *saw one of them* \* in full vigour *having leaves*, (Mark xi. 13.) he might, according to the common course of nature, very justly *look for fruit*; and *haply* find some *boccôres*, if not some winter figs likewise upon it.

Several parts of the Holy Land, no less than  
of

\* *Talis arbor erat Judaicus populus: solis foliis luxuriabat ceremoniarum, et hypocriticæ sanctimoniae: fructus nulli, &c.*  
Vid. J. Henr. Ursini arboretum.

of Idumæa\*, that lay contiguous to it, are described by the ancients to abound with date-trees. Judea particularly is typified in several coins of Vespasian†, by a disconsolate woman sitting under a palm-tree. Upon the Greek coin likewise of his son Titus‡, struck upon a like occasion, we see a shield suspended upon a palm-tree, with a *Victory* writing upon it. The same tree, upon a medal of Domitian, is made an emblem of Neapolis||, formerly Sichem or Naplōsa, as it is now called; as it is likewise of Sepphoris§ (Phocas¶ writes it *Σεφορις*) or Saffour, according to the present name, the metropolis of Galilee, upon one of Trajan's. It may be presumed therefore, that the palm-tree was formerly very much cultivated in the Holy Land. There are indeed several of them at Jericho\*\*, where there is the convenience they

\* Primus Idumæas referam tibi, Mantua, palmas.

Virg. Georg. iii. ven. 12.

-----Arbustis palmarum dives Idume.

Lucan. lib. iii.

Frangat Idumæas tristis Victoria palmas.

Mart. Ep. l. xiii. Ep. 50.

† Vid. Occonis Imperat. Roman. Numism. Mediobarb. &c. 110, 111, 112, 113. Amst. 1717.

‡ ΙΟΥΔΑΙΑΣ ΕΛΛΩΚΥΙΑΣ. Victoria scribens in clypeo palmæ appenso. Vid. Vaill. Numis. Imp. Rom. Græc. p. 21.

|| ΦΛΑΟΥΙ ΝΕΑΠΟΛΙ. САМАР. L. AI. Palma arbor. *Id.* p. 24.

§ СЕПΦΩΡΗΝΩΝ. Palma arbor. *Id.* p. 30.

¶ Phocæ Descrip. Syriæ apud L. Allatii *Συμφικτα*.

\*\* Hierichus palmetis consita, fontibus irrigua. Plin. l. v. c. 14.  
Ut copis, ita nobilitas in Judæa, nec in tota, Hierichunte maxime.  
*Id.*

they require of being often watered; where likewise the climate is warm, and the soil sandy, or such as they thrive and delight in. But at Jerusalem, Sichem, and other places to the northward, I rarely saw above two or three of them together; and even these, as their fruit rarely or ever comes to maturity, are of no further service, than (like the palm tree of Deborah) to shade the retreats or sanctuaries of their Shekks, as they might formerly have been sufficient to supply the solemn processions (such as is recorded John xii. 13.) with branches. From the present condition and quality therefore of the palm-trees, it is very probable (provided the climate and the sea air should, contrary to experience, be favourable to their increase) that they could never be either numerous or fruitful. The opinion \* then, that  
Phœnice

*Id.* xiii. c. 4. Exuberant fruges, (says Tacitus, speaking of this country) nostrum in morem; præterque eas balsamum et palmæ, Hist. l. v. c. 6. Strabo describeth Jericho to be (πλυσταζον τῷ φοινίκι, l. xvi. p. 1106.) *abounding with date-trees*. For the city of palm-trees, Deut. xxxiv. 3. Judges i. 16. and iii. 13. is, in the Targum, the city of Jericho.

\* Quod ad nomen attinet Phœnices, id a Palmis esse ductum mihi videtur veri simile; alii a Phœnice quodam id ducunt. Reiland. Palæst. p. 50. Palma arbor urbis (Aradi) est symbolum; quo pleræque Phœniciæ urbes utebantur, quod ΦΟΙΝΙΞ arbor provinciæ Phœniciæ nomen dederit. Vaill. *de Urbib.* p. 257. Of the same opinion was Calisthenes, according to the author of the *History of the World*, p. 205. But the most probable conjecture for the name is as follows: 'Edom, Erythra, and Phœnicia, are names of the same signification, the words denoting a red colour; which makes it probable that the Erythreans, who fled from David, settled in great numbers in Phœnicia; i. e. in all the sea coasts of Syria, from Egypt to Zidon, and by calling themselves Phœnicians, in the language of Syria, instead of  
'Erythreans,



Phœnice is the same with a country of date-trees, does not appear probable; for provided such an useful and beneficial plant had ever been cultivated here to advantage, it would have still continued to be kept up and propagated, as in Egypt and Barbary.

The vegetable kingdom being thus described, let us now pass on to give an account of such rocks, fossils, fountains, rivers, and animals, as are the most remarkable. Now the rocks, in several places upon the coast of Syria and Phœnice, have been hollowed into a great number of troughs, two or three yards long, and of a proportionable breadth; intended originally for so many salt works, where, by continually throwing in the sea water to evaporate, a large quantity of salt would be gradually concreted. We see several of these contrivances at Latikea, Antaradus, Tripoly, and other places; which at present, notwithstanding the hardness of the rock, are most of them worn down to their very bottoms, by the continual dashing and friction of the waves.

Above this bed of hard stone, in the neighbourhood particularly of Latikea, the rocks are of a soft chalky substance; from whence the adjacent city might borrow the name of *Asuzza Anak*, or the *White Promontory*. The Nakoura, former-

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“Erythreans, gave the name of Phœnicia, to all that sea coast, and to that only.” Sir Is. Newton’s Chron. p. 108, 109. Bochart very ingeniously supposeth the Phœnices to be a corruption of כְּנִי עֲנַק (*Bemi Anak*) the children of Anak. Lib. i. Chan. c. 1.

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ly. called the Scala Tyrriorum, is of the same nature and complexion; both of them including a great variety of corals, shells, and other remains of the deluge \*. Upon the Castravan mountains, above Barroute, there is another curious bed likewise of whitish stone, but of the slate kind, which unfolds in every fleck of it, a great number and variety of fishes. These, for the most part, lie exceedingly flat and compressed, like the fossil fern plants, yet, at the same time, they are so well preserved, that the smallest strokes and lineaments of their fins, scales, and other specific distinctions, are easily distinguished. Among these, I have a beautiful specimen of the squilla, which, though the tenderest of the crustaceous kind, yet has not suffered the least injury from length of time, or other accidents.

The greatest part of the mountains of Carmel, and those in the neighbourhood of Jerusalem and ~~Bethlehem~~, are made up of the like chalky strata. In the former, we gather a great many hollow stones, lined in their insides with a variety of sparry matter, which, from some distant resemblance, are said to be petrified olives, melons, peaches, and other fruit. These are commonly bestowed upon pilgrims, not only as curiosities, but as antidotes against several distempers. The olives, which are the lapides Judaici †, as they are commonly

\* See the catalogue in the *Collectanea*.

† One of them will usually serve for two doses, dissolving or corroding it first in so much lemon juice as will just cover it; and afterwards drinking it up. Prosper Alpinus gives us another method,

commonly called, have been always looked upon, when dissolved in the juice of lemons, as an approved medicine against the stone and gravel; but little can be said in favour of these supposed melons and peaches, which are only so many different sizes of round hollow flint stones, beautified in the inside with a variety of sparry and stalagmitical knobs, which are made to pass for so many seeds and kernels. Some little round calculi, commonly called *the Virgin's peas*; the chalky stone of the grotto near Bethlehem, called *her milk*; the oil of *Zaccone*; the roses of Jericho; beads made of the olive stones of Gethsemane; with various curiosities of the like nature, are the presents which pilgrims usually receive in return for their charity.

In calm weather, several fountains of excellent water discover themselves upon the sea shore, below Bellmont. They are supposed to have their sources at a league's distance to the eastward, near Bellmont, where there is a large cave, or grotto, as I have already observed, remarkable for a plentiful stream of water, that a few yards after it discovers itself, is immediately lost and disappears. The cave itself is near half a mile long, and sometimes fifty, sometimes a hundred yards broad, vaulted by nature in such a regular manner, as if art alone had been concerned

method, Hist. Ægypt. Nat. l. iii. c. 6, ' Ægyptii lapide Judai-  
' co, ex cote cum aqua stillatitia ex ononidis radicibus corticibus  
' detricto, utuntur ad calculos in renibus et in vesica comminuen-  
' dos, atque ad urinam movendam.'

ed in the performance. The Ras el Ayn near Tyre, the sources of the Kishon, and the sealed fountain of Solomon near Bethlehem, are of the same gushing plentiful quality with the fountains of this grotto. The Nahar el Farah, or *the river of the Mouse*, which has its sources about a league to the N. E. of Jerusalem, should likewise here be taken notice of. The name of it might probably arise from this circumstance, that it no sooner begins to flow, than it is lost under ground, and then rising again, pursues its course in this manner, alternately running and disappearing, till it arrives in the plains of Jericho, and empties itself into the Jordan. Yet, provided these fountains and rivulets here mentioned, together with the Kardanah, the Kishon, the brook of Sichem, that of Jeremiah or Anathoth, besides a great many others that are dispersed all over the Holy Land, should be united together, they would not form a stream in any degree equal to the Jordan; which, excepting the Nile, is by far the most considerable river, either of the coast of Syria or of Barbary. I computed it to be about thirty yards broad; but the depth I could not measure, except at the brink, where I found it to be three. If then we take this, during the whole year, for the mean depth of the stream, (which I am to observe further, runs about two miles an hour), the Jordan will ~~every~~ day discharge into the Dead Sea, about 6,090,000 tons of water. So great a quantity of water being daily received, without any visible increase in the usual limits of the

the

the Dead Sea, has made some authors\* conjecture, that it must be absorbed by the burning sands; others, that there are some subterraneous cavities to receive it; others, that there is a communication betwixt it and the Sirbonic Lake; not considering that the Dead Sea alone will lose every day near one third more in vapour than what all this amounts to. For provided the Dead Sea should be, according to the general computation, seventy-two miles long and eighteen broad, then, by allowing † 6914 tons of vapour for every square mile, there will be drawn up every day above 8,960,000 tons. Nay, further, as the heat of the sun is of much greater activity here than in the Mediterranean, exhaling thereby a greater proportion of vapour than what has been estimated above, so the Jordan may, in some measure, make up this excess, by swelling more at one time than another, though, without doubt, there are several other rivers ‡, particularly

\* Rel. Palæst. p. 257-8. Sandys' Trav. p. 111.

† Vid. Dr Halley's observations upon the quantity of vapour drawn from the Mediterranean Sea.

‡ Galen. apud Reland. *ibid.* p. 292. Jacob. Cerbus, *ibid.* p. 281. octo hos fluvios illabi monet in lacum Asphaltitem. 1. Jordanem. 2. Arnonem. 3. Flumen cum Arnone de magnitudine certans, a monte regali procedens, attingens Oronaim. 4. Fluvium prope puteos bituminis et vallem salinarum. 5. Fluvium de Cadesbarne venientem. 6. Fluvium ab Artara egressum, qui Thecuam irrigat. 7. Cedronem. 8. Charith, torrentem ex monte Quaréntano ortum, et prope Engaddim in lacum Asphaltitem se exonerantem. Sanutus (*ibid.* p. 280.) hos fluvios recenset in lacum Asphaltitem illabi. Arnonem alium, qui in principio Mare mortuum intrat: alium, qui novem leucis inde Mare mortuum ingreditur.

ly from the mountains of Moab, that must continually discharge themselves into the Dead Sea. For the Dead Sea is not the only large expanse of water, where the equilibrium betwixt the expence of vapour and the supply from rivers is constantly kept up. The like is common, without the least suspicion of any subterraneous outlets, to the Caspian Sea, and to an infinite number of extensive lakes all over the globe. For all and every one of these, by receiving as much water from their respective rivers, as they lose in vapour, will preserve, as near as can be expected, their usual limits and dimensions; the almighty Providence *having given to them*, no less than to the elements, *a law which shall not be broken*, (Psal. cxlviii. 6.) *which hath said* (Job xxxviii. 11.) *to the sea, Hitherto shalt thou come, but no further; and here shall thy proud waves be stayed.*

I was informed that the bitumen, for which this lake has been always remarkable, is raised, at certain times, from the bottom of the lake, in large hemispheres; which, as soon as they touch the surface, and are thereby acted upon by the external air, burst at once with great smoke and noise, like the pulvis fulminans of the chemists, and disperse themselves into a thousand pieces. But this only happens near the shore; for in greater depths, the eruptions are supposed to discover themselves in such columns of smoke, as are now and then observed to arise from the lake. And perhaps to such eruptions as these, we may attribute that variety of pits and hollows, not unlike

like the traces of so many of our ancient lime-kilns, which are found in the neighbourhood of this lake.

The bitumen is, in all probability, accompanied from the bottom with sulphur, as both of them are found promiscuously upon the shore. The latter is exactly the same with common native sulphur; the other is friable, and heavier than water, yielding upon friction, or by being put into the fire, a fœtid smell. Neither does it appear to be, as Dioscorides describes his asphaltus†, of a purplish colour, but is as black as jet, and exactly of the same shining appearance.

Game of all kind, such as bustard, partridge, francoleens, woodcocks, snipes, teal, &c. hares, rabbits, jackalls, antilopes, &c. are in great plenty all over these countries. The method made use of in taking them, is either by coursing or hawking. For which purpose, whenever the Turks and Arabs of better fashion travel, or go out for diversion, they are always attended with a number of hawks and grey-hounds. These are usually shagged, and larger than those of England; whereas the hawks are generally of the same size and quality with our goss-hawks, being strong enough to pin down a bustard to the ground; and artful enough to stop an antilope in full career. This they perform, by seizing the animal first by the head; and making afterwards with  
their

\* Ασφαλτος διψιφου. ή Ινδαικη της λοιπης. Εστι δε καλη ή πορφυρεο-  
δης σιλβουσα, αυτοις τη σφη και βαρεια. 'Η δε μελαινα και ῥυπαρης  
φauλη Dioscorid. l. i. c. 100.

their wings a continued fluttering over its eyes, they perplex, and thereby stop and retain it so long, till the grey-hounds come up and relieve them.

But the only curious animals that I had the good fortune to see, were the skinkôre, and the daman Israel; both of which have been already delineated\*, though neither of them is well described. The former, which are found in plenty enough in a fountain near Bellmont, are of the lizard kind, all over spotted, and differ from the common water-efts in the extent and fashion of their fins. These, in the male, commence from the tip of the nose, and running the whole length of the neck and back, to the very extremity of the tail, are continued afterwards along the under part of the tail, quite to the navel; whereas the tails only of the female are finned. The body and tail of this animal are accounted great provocatives, and are therefore purchased by the Turks at an extravagant price.

The daman Israel† is an animal likewise of Mount Libanus, though common in other places of this country. It is a harmless creature, of the same size and quality with the rabbit, and with  
the

\* Vid. Thesaur. Rer. Natural. Alberti Sebæ, p. 22. Vol. i. Pl. 14. fig. 1. & p. 67. Pl. 41. fig. 2. The first exhibits the figure of the skinkore, calling it *Lacertus Africanus dorso pectinato*, *amphibios mag.* *Fœmina pectinata caret pinna in dorso.* The latter gives us the figure of the *Cuniculus Americanus*, which is very like our Daman Israel.

† Animal quoddam humile, cuniculo non dissimile, quod agnum filiorum Israel nuncupant. Prosp. Alpin. Hist. Nat. Ægypt. pars. i. c. 20. p. 80. et l. iv. c. 9.



the like incurvating posture and disposition of the fore-teeth. But it is of a browner colour, with smaller eyes, and a head more pointed, like the marmots. The fore-feet likewise are short, and the hinder are nearly as long in proportion as those of the jerboa\*. Though this animal is known to burrough sometimes in the ground; yet, as its usual residence and refuge is in the holes and cliffs of the rocks, we have so far a more presumptive proof, that this creature may be the saphan of the Scriptures than the jerboa. I could not learn why it was called daman Israel, i. e. *Israel's lamb*, as those words are interpreted.

Besides Greeks, Maronites, and other sects of Christians that inhabit this country, there are Turks, Turkmans, Arabs, Souries and Druses. Of these, the Turks are masters of the cities, castles and garrisons; the Turkmans and Arabs possess the plains, the latter living as usual in tents, the other in moveable hovels. The Souries (the descendents probably of the indigenæ or original Syrians) cultivate the greatest part of the country near Latikea and Jebilee; whilst the Druses maintain a kind of sovereignty in the Castravan mountains, particularly above Ba-route.

As far as I could learn, the Druses and the Souries differ very little in their religion, which, by some of their books, written in the Arabic

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\* Vid. *supra*, vol. i. p. 322.

language, that I brought with me, appears to be a mixture of the Christian and Mahometan ; the Gospels and the Koran being equally received as books of divine authority and inspiration. For to omit, what is commonly reported by the other inhabitants of this country, of their being circumcised ; of their worshipping the rising and setting sun ; of their intermarrying with their nearest relations, and making their children pass through the fire ; we may well conclude, from their indulging themselves in wine and swines flesh, that they are not strict Mahometans ; as the Christian names of Hanna, Youseph, Meriam, &c. (*i. e.* John, Joseph, Mary, &c.) which they are usually called by, will not be sufficient proof of their being true Christians. The Druses are probably the same with the  $\chi\alpha\epsilon\rho\beta\iota\omicron\iota$  of Phocas, whom he places in this situation, and describes \* to be neither Christians nor Mahometans, but a mixture of both.

## CHAP-

\* Vid. Phocæ Descript. Syriæ, apud L. Allatii *Scriptura*.

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## CHAPTER II.

### PHYSICAL AND MISCELLANEOUS OBSERVATIONS IN EGYPT.

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#### SECTION I.

##### *Of the symbolical Learning of the Egyptians.*

FROM Syria and Palestine, let us now carry on our physical and miscellaneous inquiries into Egypt. Here we have a large and inexhaustible fund of matter, which has engaged the studies and attention of the curious, from the most early records of history. For besides the great variety of arts and sciences that were known to the Egyptians, we read of no other nation that could boast of the like number, either of natural or artificial curiosities. It was the fame and reputation which Egypt had acquired, of being the school and repository of these several branches of knowledge and ingenuity that engaged Orpheus, Pythagoras, and other persons of the first rank in antiquity\*, to leave their own countries to

\* Such were Musæus, Melampus, Dædalus, Homer, Lycurgus, Solon, Plato, Democritus, &c. Vid. Diod. Sic. l. i. p. 53.

to be acquainted with this. These philosophers likewise were so artful in the first introducing of themselves \*, they complied so readily afterwards with the customs of the country †, and were so happy in addressing themselves to the persons ‡ who were to instruct them, that, notwithstanding the hatred, jealousy, and reservedness ||, which the Egyptians entertained towards strangers, they generally returned home with success, and brought along with them either some new religious rites, or some useful discoveries.

Thus Herodotus § acquaints us, that the Greeks borrowed all the names of their gods from Egypt; and Diodorus ¶, that they not only derived from thence their theology, but their arts and sciences likewise. For, among other instances, he tells us, that the ceremonies of Bacchus and Ceres, who were the same with Osiris and Isis, had been introduced very early among them by Orpheus; that from the same source, Pythagoras received the doctrine of the transmigration of souls; Euxodus and Thales \*\* received mathematics; and

\* It might be for this reason, that Plato, &c. took upon him the character of an oil-merchant; oil being always a welcome commodity to Egypt. Plut. Solon. p. 79. edit. Par.

† Clemens Alexandrinus acquaints us, that Pythagoras was circumcised, in order to be admitted into their Adyta. Vid. Strom. edit. Pott. l. i. p. 354.

‡ *Id. ibid.* p. 356.

|| *Id.* l. v. p. 670. Just. Mart. Quæst. 25. ad Orthod.

§ Herod. Eut. p. 50. ¶ Diod. Sic. Bib. l. i. p. 96.

\*\* Diog. Laert. l. i. in Vita Thal. Clem. Alex. Strom. l. i. p. 221.

and Dædalus architecture, sculpture, and other ingenious arts. According to the same author \*, Greece was further obliged to Egypt, not only for physic and medicines †, but for a great many laws, maxims, and constitutions of polity, which had been introduced among them by Plato, Solon, and Lycurgus. Even their more abstracted learning, such as related to the essence of the Deity, to the power and combination of numbers, to their ΜΟΝΑΣ ‡ and ΤΡΙΑΣ, with other disquisitions of the like abstracted nature, seem to have been transcribed from thence into the works of Plato and Pythagoras.

Their symbolical learning alone, either as it was conveyed in sculpture upon their obelisks, &c. or in colours and painting upon the walls of their cryptæ||, mummy-chests, boxes for the sacred animals, &c. appears not to have been known in Greece, though among the antiquities of Hetruria§, we meet with some faint imitations of it; enough perhaps to prove, either that this nation was originally related to Egypt, or that Pythagoras,

\* Diod. Sic. ut supra.

† Homer. Odyss. Δ. ver. 227.

‡ Zoroast. apud Kirch. Oedip. Ægypt. Synt. i. p. 100.

|| Several of these cryptæ, painted with symbolical figures, are seen near the pyramids. Chrysippus's antrum Mithræ seems to have been of the same kind. Τα τεύχη τε σπηλαια πάντα ποιητοῖς ἐκαστοῖς κοσμημένα, καὶ τὰ τῶν θεῶν, ὥς μυστικὰς καλῶσι, ἀγαλματα περιέχοντα.

§ Vid. Tabb. Dempst. Hetruriæ Regalis, 19. 26. 35. 39. 47. 63. 66. 77. 78. 88.—Symbolicum appello, cum quid colitur, non quia creditur Deus, sed quia Deum significat.—Quomodo sol cultus in igne Vestali, Hercules in statua, &c. G. J. Voss. de Idolol. l. i. c. 5.

goras, or some of his school, introduced it among them. However, though none of the Grecian travellers have carried into their own country the figures and symbols themselves; yet Diodorus in particular, in conjunction with Porphyry, Clemens Aléxandrinus, and other authors, has obliged us with the description and interpretation of some of the most remarkable of them. Yet, as a proper and faithful key is wanting to the whole science, the purport and design of any single specimen of it must still remain a secret; it must at least be exceedingly dubious, uncertain, and obscure.

Now, from what is presumed to be already known of this symbolical learning, it is supposed that the Egyptians chiefly committed to it such things as regarded the being and attributes of their gods\*; the sacrifices and adorations that were to be offered to them; the concatenation of the different classes of beings; *rerum naturæ interpretatio*, according to Pliny†; the doctrine of the elements, and of the good and bad demons, that were imagined to influence and direct them. These again were represented by such particular animals,

\* Hieroglyphica Ægyptiorum sapientia, testantibus omnibus veterum scriptorum monumentis, nihil aliud erat, quam scientia de Deo, divinisque virtutibus, scientia ordinis universi, scientia intelligentiarum mundi præsidium, quam Pythagoras et Plato, notante Plutarcho, ex Mercurii columnis, i. e. ex obeliscis, didicerunt. Kirch. Oed. Ægypt. tom. iii. p. 567. Ægyptii per nomina Deorum universam rerum naturam, juxta theologiam naturalem, intelligebant. Macrobi. Sat. l. i. c. 20.

† Plin. Nat. Hist. l. xxxvi. c. 9.

animals \*, plants, instruments, &c. as they supposed, or had actually found, by a long course of experiments and observations, to be emblematical of, or to bear some typical or physical relation to them. Every portion therefore of this sacred writing may be presumed to carry along with it some points of doctrine, relating to the theology or physics of the Egyptians; for historic facts do not seem so well capable of being conveyed or delivered in these figures and symbols.

In order therefore to give a few instances of this mystical science, I shall begin with such of their sacred animals as were symbolical of their two principal deities, Osiris and Isis, who were the same with Bacchus and Ceres, the sun and the moon, or the male and female parts of nature †. The serpent ‡ therefore, sometimes drawn with a turgid neck ||, as it was observed to be an animal

\* According to an old observation, the great principle upon which the symbolic method of philosophizing was grounded, was this, *τα αινετα των ιερων κειμενα*. Jamblichus gives us a fuller reason of this way of writing. Vid. Jamblichus de Myst. Sect. 7. c. 1. Ger. and Joan. Vossius de Idololat. l. i. Porphyr. apud Euseb. De præpar. Evang. Plutar. de Iside et Osiride, p. 380. Ipsi, qui irridentur Ægyptii, nullam belluam, nisi ob aliquam utilitatem, quam ex ea caperent, consecraverunt. Cic. de Nat. Deor.

† Plut. De Isid. et Osirid. p. 372, 363, & 366. Euseb. Præp. Evang. p. 52. Lut. 1544. Macrob. Sat. l. i. c. 20.

‡ Euseb. ut supra, p. 26. Plut. De Isid. et Osirid. p. 381. Macrob. Sat. l. i. c. 20. et c. 17. unde Euripides,

*Πυρίπτης δι δρεκον έλσι ηγεται ταις τετραμαρφαίς  
Ωραις ζευγυς άρμονια παλυκαρπον οχημα.*

|| Aspidæ somniferam tumida cervice levavit. Lucan. l. ix. Apul. Met. l. xi. p. 258. & 262. Solin. Polyhist. l. xi. De aspidæ.

animal of great life and sprightliness, moving along with many winding, circulatory gyrations, and waxing young again every year by the casting and renewing of its skin, so it was one of the symbolical representations of the sun. The beetle\* was also substituted for the same deity, in as much as, among other reasons, all the insects of this tribe were supposed to be males; that, in imitation of the sun's continuing six months in the winter signs, they continued the same time under ground; and again, in conformity also to the sun's motion, after having inclosed their embryos in balls of dung, they rolled them along, with their faces looking the contrary way. The hawk† (the thaustus and baieth as the Egyptians called it) was another symbol, being a bird of great spirit and vivacity; having a most piercing eye, looking stedfastly upon the sun, and soaring, as they imagined, into the very region of light. In like manner, the wolf‡, upon account of its penetrating sight and voracity, was another emblem; as were also the lion|| and the goose§, both of them most watchful animals; the former whereof was supposed to sleep with his eyes open.

\* Plut. de Isid. et Osirid. p. 355. & 381. Porphy. apud Euseb. præp. Evang. p. 58. Clem. Strom. l. v. p. 657. Horap. Hierog. l. i. c. 10.

† Ælian. Hist. Anim. l. x. c. 14. & 24. Horap. Hierogl. l. i. c. 7. Clem. Strom. l. v. p. 671. Plut. de Isid. et Osirid. p. 371. Porphy. apud Euseb. Præp. Evang. p. 70.

‡ Macrob. Sat. l. i. c. 17.

|| Horap. Hierog. l. i. c. 17. et 19.

§ Plin. l. x. c. 22. Kirch. Oedip. Ægypt. Synt. 3: p. 242.



open. To these we may add the crocodile\*, which, like the supreme being, had no need of a tongue, and lived the same number of years as there were days in the year. And again, as Osiris was the Nile, he was typified also in that respect by the crocodile, which otherwise was looked upon as a symbol of impudence†; of an evil demon‡; and of Typhon||; who was always supposed to act contrary to the benign influences of Isis and Osiris. However the bull§, the apis¶ or Mnevis, and the fruitful deity\*\* of the all-teeming earth, as Apuleius calls it, was the principal symbol of Osiris. It was accounted sacred, for the great benefit and service that it was of to mankind; and because, after Osiris was dead, they supposed his soul to have transmigrated into it.

The bull was likewise one of Isis' symbols, who was also represented by the ibis†† and the cat‡‡; the former whereof brings forth in all the same number of eggs, the latter of young ones, as there are days in one period of the moon.

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The

\* Achill. Tattius, l. iv. De Crocod. Vid. supra, p. 166. n. \*.  
Diod. Sic. Bib. l. i. p. 21-2. Plut. de Isid. et Osiride, p. 381.  
Ælian. Hist. Anim. l. x. c. 24.

† Clem. Alex. Strom. l. v. p. 670. ‡ Diod. Sic. l. iii.

|| Plut. de Isid. et Osiride, p. 366-9 & 371.

§ Diod. Sic. l. i. p. 54. ¶ *Id. ibid.* p. 13.

\*\* Apul. Met. l. xi. p. 262.

†† Clem. Strom. l. v. p. 671. Plut. de Isid. et Osiride, p. 381.  
Pignor. Mens. Is. Exp. p. 76.

‡‡ Plut. de Isid. et Osirid. p. 376.

The mixture also of black and white feathers in the plumage of the one, and of spots in the skin of the other, were supposed to represent the diversity of light and shade in the full moon; as the contraction and dilatation in the pupil of the cat's eye were looked upon to imitate the different phases themselves of that luminary. The dog\* and the cynocephalus† were other symbols of this goddess; the dog, as it was a vigilant creature, kept watch in the night, and had been of great assistance to her, in searching out the body of Osiris; the cynocephalus, as the females of this species had their monthly purgations, and the males were remarkably affected with sorrow, and abstained from food, when the moon was in conjunction with the sun.

These were some of the principal animals, which the Egyptians accounted sacred, and substituted in the place of their deities; not that they directly worshipped them, as Plutarch‡ observes, but adored the divinity only that was represented in them as in a glass, or, as he expresseth it in another place, just as we see the resemblance of the sun in drops of water. But Lucian|| has recorded something more extraordinary, with regard to the introduction of these animals into their theology; for he informs us, that ‘ in the wars between the gods and the  
‘ giants, the former, for safety, fled into Egypt,  
‘ where

\* Plut. de Isid. et Osiride, p. 356.

† Horap. Hierogl. l. i. c. 14, 15, 16.

‡ Plut. ut supra, p. 380-2. || Lucian de Sacrif. p. 5.

‘ where they assumed the bodies of beasts and  
‘ birds, which they ever afterwards retained, and  
‘ were accordingly worshipped and revered in  
‘ them.’

Besides these animals, there are others also which the Egyptians received among their sacred symbols. Such, among the birds, was the owl \*, which generally stood for an evil demon, as the cornix † did for concord, and the quail for impiety ‡; alleging these reasons, that Typhon had been transformed into the first; that the second kept constantly to its mate; whilst the latter was supposed to offend the deity with its voice. The upupa §, from being dutiful to its aged parents, was an emblem of gratitude; or else (upon account of its party-coloured plume) of the variety of things in the universe. The same quality was supposed to be denoted by the meleagris §; though Abenephius ¶ makes it to represent the starry firmament. Both these birds are still well known in Egypt. By the goat, their Mendes \*\*, or Pan, was understood the same generative faculty

\* Hecat. apud Malchum. Abeneph. apud Kirch. Obel. Pamph. p. 317.

† Ælian. Hist. Animal, l. iii. c. 9. Horap. Hierogl. l. i. c. 8. & 9.

‡ Hecat. apud Kirch. Ob. Pamphyl. p. 322. Horap. l. i. c. 49. ubi pro *αγρυα* legunt nonnulli *αγρυα*.

§ Horap. l. i. c. 55. Kirch. Obel. Pamph. p. 329.

§ Kirch. Oedip. Synt. i. p. 91.

¶ Aneph. apud Kirch. Oedip. Ægypt. Theatr. Hierogl. p. 64.

\*\* Herod. Eut. § 46.

culty and principle that was expressed by the phallus\*. By the hippopotamus†, they either typified impudence, from the cruelty and incest which this creature was supposed to be guilty of, or else Typhon, *i. e.* the west, which devours and drinks up the sun. An embryo, or the imperfect productions of nature, were expressed by the frog‡, an animal which appears in different shapes, before it arrives to perfection, and was supposed to be engendered of the mud of the Nile. A fish||, says Plutarch, was typical of hatred, because of the sea, *i. e.* Typhon, wherein the Nile is lost and absorbed. The butterfly§, from undergoing a variety of transformations, was, according to Kircher, expressive of the manifold power and influence of the Deity. The same author calls it papilio dracontomorphus, and at the same time very justly observes, that the thyrsus papyraceus, or junceus, or bearded bull-rush, is usually placed before it, typifying thereby the plenty and affluence which flows from the divine being.

Neither were these and such like animals, when whole and entire, made use of in their symbolical

\* Diod. Sic. l. i. p. 13. & 55. Kirch. Oedip. Ægypt. Synt. i. p. 152.

† Plut. de Isid. et Osiride, 363. Hecat. lib. De sacra philosoph. Porphy. apud Euseb. de Præp. Evang. p. 70.

‡ Horap. l. i. c. 26. Pign. Mens. Is. Expl. p. 48.

|| Plut. de Isid. &c. p. 363.

§ Kirch. Oed. Ægypt. Synt. ii. p. 183. & in Obel. Pamphyl. p. 500.

symbolical representations, but even the parts likewise and members of them. Thus the horns of the bull, which are usually gilded \*, were typical both of the horns of the moon †, and of the beams of the sun ‡, according as they were placed upon the head of Isis or Osiris. The eye || denoted foresight and providence; and, being joined to a sceptre, signified also the power of Osiris. The right hand §, with the fingers open, typified plenty; but by the left were understood the contrary qualities. Wings ¶ were emblematical of the swiftness and promptitude which the deities, genii, and sacred persons, to whom they are given, may be supposed to make use of, for the service of the universe.

But besides the parts already mentioned, we often see the heads of divers animals, either alone, or else fixed to a rod, or to the body of some other creature. By the first of which symbols, they probably typified the principal character of the creature\*\* itself; by the other, the united characters of them both. Thus the head of the hawk, ibis, lion, dog, &c. is frequently  
joined

\* *Carmina Orphica apud Euseb. Præp. Evang. p. 61.*

† *Clem. Strom. l. v. p. 657.*

‡ *Macrob. l. i. c. 22. Horat. Carm. l. ii. Od. 19. Aleand. Explic. Tab. Heliac. p. 23.*

|| *Diod. Sic. l. iii. Plut. de Isid. et Osiride, p. 371.*

§ *Diod. ut supra. Abeneph. apud Kirch. Obel. Pamphil. p. 442.*

¶ *Clem. l. v. p. 668. de Cherubim.*

\*\* *Diod. l. i. p. 39. Kirch. Oed. Ægypt. p. 214. et Ob. Pamphil. p. 497.*

joined to the human body; the head of a woman or of a hawk, to the body of a lion; the head of Orus \*, (who is always represented young) to the body of a beetle; and the head of a hawk to the body of a serpent. ‘Now,’ according to Porphyry †, ‘we are to understand by this mixture and combination of different animals, the extent of God’s care and providence over all his creatures; and as we are all bred up and nourished together, under the same divine power and protection, great tenderness and regard ought to be shewn to our fellow-creatures.’

Of these compound symbolical representations therefore, the human body ‡, with the hawk’s head, was typical of the first, incorruptible, eternal Being. Porphyry § speaks of an image of this kind that was of a white colour, whereby the moon was represented as receiving her pale light from the sun. When the head of the ibis was annexed, then it was their Mercuribis, or Hermanubis, presiding, according to Kircher, over the element of water ¶. The like quality and character might be also implied, when they added the head of the lion ¶¶, a creature that was typical of the Nile’s inundation. No one figure certainly is more common than this; being usually seen in a sitting inclined posture, as if cut short  
by

\* Kirch. Prodr. Copt. p. 239.

† Porphyry. apud Euseb. Præp. Evang. p. 57.

‡ Id. ibid. p. 70.      || Zoroast. ibid. l. i. p. 27.

§ Kirch. Obel. Pamphyl. p. 348.

¶ Kirch. Oedip. Ægypt. class. 7. p. 155.

by the legs, and was called momphta, the same with emeph or hemphtha, as Kircher conjectures. The *κρηπρωπον* \*, or human figure with a goat's head, expressed, among other things, the conjunction of the sun and moon in the sign Aries. But when the head of the dog was affixed, then it was the Anubis or Hermes †, representing the horizon ‡ and guarding the hemispheres.

The head of a woman, joined to the body of a lion, was called a sphinx; being in general an emblem of strength ||, united to prudence. When such figures were placed near the Nile, they denoted the inundation to fall out, when the sun passed through the signs of Leo § and Virgo; but when they adorned the porticos ¶ and gates of their temples, then they signified that the theology taught and represented within, was clothed in types and mysteries. The (aspis *ἰεροκομορφος*) serpent with a hawk's head \*\*, was the agathodæmon of the Phœnicians, and the cneph (Kircher likewise calls it the thermutis) of the Egyptians, being supposed to carry along with it greater marks of divinity †† than any other symbolical figure whatsoever. We sometimes see an  
egg,

\* Euseb. Præp. Evang. l. iii. p. 70. † Lucian. de Saorif.

‡ Plut. de Iside et Osiride, p. 356. Horap. Hierogl. l. i. c. 14, 15, 16. Diød. Sic. l. i. p. 55. Clem. l. v. p. 413.

|| Id. ibid.

§ Horap. Hierog. l. i. c. 21. Kirch. Obel. Pamph. p. 286.

¶ Plut. de Isid. p. 354. Clem. l. lvii. p. 664.

\*\* Euseb. Præp. Evang. l. i. p. 26. †† Id. ibid. p. 27.

egg, the symbol of the world \*, issuing out of its mouth †; which the Egyptians maintain to be productive of the deity Ptha, but the Greeks of Vulcan; who were both the same, according to Suidas. In like manner, the union of the heads and bodies of other different creatures may, according to their respective qualities, be presumed to represent so many genii; the heads, especially of the sacred animals, being added, as Kircher imagines ‡, to strike terror into the evil demons. The skins of the dog and the wolf, which, Diodorus tells us §, Anubis and Macedon put over their heads in the wars of Osiris (in order, as we may suppose, to excite fear in their enemies) will probably confirm this opinion of Kircher. Diodorus indeed gives us a different interpretation, and affirms, that it was owing to the wearing of these helmets, that those animals were esteemed and honoured by the Egyptians.

After these different species of animals, we are to take notice of some of the most remarkable plants, that were received into their sacred writing. Thus Diodorus tells us, that the agrostis, in token of gratitude §, was carried in the hands  
of

\* Plut. Symp. l. ii. p. 636. Varro apud Probum in Eclog. vi. Scol. Idol. l. i. c. 5.

† Porphyry, apud Euseb. Præp. Evang. l. iii. p. 69. Suidas in voce Φθας. Suspicio vocem Κηνφ esse μετα ουγκων a ηνν, *canaph* vel *ceneph*, quæ notat alam, subinde etiam το πτερον alatum. Sic vocitarunt hoc numen a symbolo, quod ex serpente et volucre componeretur. G. J. Voss, de Idol.

‡ Kirch. Oed. Synt. xviii. p. 516.

§ Diod. Sic. l. i. p. 11.

§ Diod. ut sup. p. 28.



of their votaries ; but, as this is the general name for the culmiferous plants, it will be uncertain to which of them we are to fix it. The plants likewise of the Isiac table, called by Pignorius and Kircher, the persea, acacia, melilot, wormwood, purslain, &c. appear to be much like other kinds, such probably as were no way concerned in the Egyptian physics or theology, than those to which they are ascribed. The purslain particularly, or motmoutin \*, seems by the figure to be the sugar cane, which this country might anciently, as it does at this time produce. But among those that may be better distinguished ; such as the head of the poppy †, or of the pomegranate, which are divided into a number of apartments full of seed, by these they denoted a city well inhabited. By the reed, (the only instrument they anciently wrote with, as they continue to do to this day), they signified the invention of arts and sciences ‡, together with the culture of the vine, according to Kircher ||. The reed is still used for the support of the vine. This plant is frequently seen, with the top of it bending down §, in the hands of their deities, and was the same symbol, according to Kircher ¶, with the bullrush and papyrus ;

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expressive

\* *ΛΕΟΤΑΛΟΥΤΙΝ* idem significat, quod liberans a morte, ita Ægyptii portulacam vocabant. Hierophantes vero *αἰμα Αἰμα*, Vid. Kirch. Oedip. p. 78.

† Euseb. Præp. Evang. p. 68.

‡ Horap. Hierogl. l. i. c. 38.

|| Kirch. Oed. Ægypt. Synt. iii. p. 232.

§ Id. ibid. p. 234.

¶ Id. ibid. p. 234.

expressive likewise of the various necessities of life. The palm-tree \*, from shooting forth one branch every month, *i. e.* twelve in a year, signified that same period of time. The boughs of it, that were equally emblematical with those of other kinds of the first productions of nature †, or of the primitive food of mankind, were probably the *βραχαι*, or *branches* ‡, which the votaries carried in their hands, when they offered up their devotions. It is certain that other nations made use of these boughs, upon a civil || as well as religious § account. The persea ¶, mistaken for the beach-tree, was sacred to Isis, as the ivy was to Osiris \*\*. Now, the leaves of the persea, typifying the tongue, as the fruit itself did the heart, they intimated thereby the agreement there should be betwixt our sentiments and expressions; and that the deity is to be honoured with both. The figure ††, which we often see, like a trident, is supposed by Kircher to be a triple branch of this tree, typical of the three seasons, the spring, the summer, and winter, into which the Egyptians divided their year. But the lotus ‡‡ is the most common and significative among,

\* Horap. Hierogl. l. i. c. 3. † Porphy. de abstinencia.

‡ Clem. l. v. p. 672-3. || Heliocl. Æth. Hist. l. x.

§ Jos. Antiq. Jud. l. iii. c. 10.

¶ Plut. de Isid. p. 378. Diod. l. i. p. 21.

\*\* Diod. l. i. p. 10.

†† Kirch. Oed. Ægypt. Synt. iii. p. 228.

‡‡ Herod. Eut. § 92. Jambl. de Myst. § vii. c. 2.

among the vegetable symbols, being observed to attend the motion of the sun, to lie under water in its absence, and to have the flowers, leaves, fruit and root, of the same round figure with that luminary. Osiris therefore was not only supposed to be represented in an extraordinary manner by the lotus, but to have his throne\* likewise placed upon it. By a flower †, (it is not material perhaps of which species), the power of the Deity was typified, as having thereby conducted a plant (and therein emblematically any animal or vegetable production) from a seed, or small beginning, to a perfect flower, or state of maturity. However, we read that the anemone ‡, in particular, was an emblem of sickness. The onion || too, upon account of the root of it, (which consists of many coats, enveloping each other, like the orbs in the planetary system) was another of their sacred vegetables. The priests § would not eat it, because, among other reasons, it created thirst; and, contrary to the nature of other vegetables, grew and increased when the moon was in the wain.

Among the great variety of utensils, instruments, mathematical figures, &c. that we meet with upon their obelisks, and in other pieces of sacred writing, we may give the first place to the calathus, or basket. This is usually placed upon the head of Serapis, who was the same ¶ with  
Osiris,

\* *Id. ibid.*† *Macrob. Sat. 1. 1. xvii.*‡ *Horap. l. ii. c. 8.*|| *Juven. Sat. xv. ver. 9.*§ *Plut. de Isid. p. 353.*¶ *Id. ibid. p. 376.*

Osiris, and denoted\* the various gifts that were received from, and conveyed back to the Deity. The situla or bucket, which Isis carries sometimes in her hand, denoted the fecundity of the Nile; and differed very little in shape from the *κρατήρ*, or cup of libation†, that was one of the attributes of the *ἑκάτης*, or ornatour. The crater, or bowl‡, was another emblem of the same kind, being also placed upon the heads of their deities, typifying thereby the great plenty and beneficence that flowed from them. The canopus|| was of the same class, representing the element of divinity or water§. Under a sphingopedes¶, upon the Isiatic table, we see three of them together, denoting the three causes\*\* that were then assigned for the inundation of the Nile.

Artificial instruments, and things relating to that class, are in great numbers. Among the musical instruments, we see the sistrum††, and the plectrum‡‡; the former whereof was used, in their religious ceremonies, to fright away the evil demons; being at the same time expressive of the periods of the Nile's inundation, and that all things in the universe are kept up by motion.

The

\* Macrob. Sat. l. i. c. 20. Euseb. Præp. Evang. p. 68. Pignor Tab. Is. p. 49.

† Clem. Alex. l. vi. p. 456. ‡ Hermes in Pirmandro.

|| Euseb. Eccl. Hist. l. ii. apud Rufinum.

§ Porphy. apud Euseb. Præp. Evang. p. 57.

¶ Athenæi Deipnos. l. v. \*\* Horap. l. i. c. 21.

†† Plut. de Isid. p. 376. Serv. in Virg. Æn. viii. de Sistro.

‡‡ Clem. l. v. c. 23.

The plectrum was either emblematical of the poles, upon which the globe of the earth is turned; or else of the air, which communicated life and motion to the universe. Instruments of punishment, such as the hook and the flagellum, are sometimes seen in the hands of their Genii avertenci; expressive, no doubt, of the power they are supposed to make use of, in driving away the evil demons. But the flagellum, in the hands of Osiris \*, denotes his character, as guiding the chariot of the sun. The *Exoivis*, and sacred cubit, (the latter † whereof was the badge of the *Στολιδης*, the former ‡ of the *ἱερογγραμματος*, or sacred scribe), may be likewise placed among the instruments of justice; to which we may add the sceptre, that has before been taken notice of, as the symbol of government, steadiness and conduct. But the wheel §, which was the reverse of the sceptre, signified the instability of human affairs. A long rod, like the hasta pura of the Romans, was probably a symbol of the same importance with the sceptre; being generally ascribed to the sun §, though sometimes we see it held in the hands of their other deities. The top of it also is frequently adorned with the head of the upupa, goat, Orus, Isis, or the lotus, whereby some new character may be presumed to be superadded to it. Thus, among other instances,

a

\* Macrob. Sat. l. i. c. 23. † Vid. not. †, p. 180.

‡ Clem. l. vi. p. 757. || Plut. in Numa.

§ Pign. in Μουσ. de Horis, p. 170. Macrob. Sat. l. i. c. 17.

a rod with the head of Isis or Orus upon it, might express some branch of power and authority, which the person who holds it had received from one or other of those deities.

Among the mathematical figures, we meet with the circle and crescent, which represent the sun and the moon, *περὶ λογικῶς*, i. e. *properly speaking*, or without any *ænigmatical* meaning, as Clemens Alexandrinus\* expresses it. The circle likewise is equally symbolical of the year with the serpent biting its tail. A globe, or disk, is often placed upon the heads of their deities, as all of them bear some relation to the sun. It is fixed also upon the head †, and between the very horns of Isis, whose attributes and ceremonies were frequently the same ‡ with those of Osiris. Wings are often added to the globe, with a serpent hanging from it, being all of them together symbolical of what is presumed to be the *anima mundi* ||; i. e. a power, spirit, or faculty, that diffuses life, vigour and perfection, throughout the universe. A serpent surrounding a globe, carried along with it the same meaning §. When the circle has within it a serpent, either lying in a straight line, or forming the figure of a cross, by the expansion of its wings, then it is supposed to be the symbol of an agathodæmon ¶, otherwise

\* Clem. l. v. p. 657.


† Apul. Met. l. xi. p. 258.


‡ Id. ibid. p. 27.

|| Abeneph. de Relig. Ægypt. apud Kirch. Obel. Pamph. p. 403. & Oed. Ægypt. Class. vii. c. i. p. 96. & c. iv p. 117.

§ Abeneph. apud Kirch. Ob. Pam. p. 420.


¶ Philo Bib. apud Euseb. de Præp. Evang.

wise expressed by the Greek [ϑ] *theta*. The hier-alpha  \* likewise, which is frequently held in the hands of their deities and genii, might carry along with it the like signification. Of the same kind also was the ♀ crux ansata †, which consisted of a cross, or sometimes of the letter T only, fixed in this manner [♀] to a circle. Now, as the cross ‡ denoted the four elements of the world, the circle will be symbolical of the influence which the sun may be supposed to have over them; or, as Kircher || explains it, by the circle is to be understood the Creator and Preserver of the world; as the wisdom derived from him, which directs and governs it, is signified by the †, T, (or ‡, as he writes it), the monogram, as he

\* Hoc *μονογραμμα*  ex Δ et Α compositum, in nullo non obelisco frequentissimum Ægyptiacarum vocum *Δεθεος Δεουον* quibus bonum genium Deltæ Nili seu Ægypti signant, index; cum præter dictarum vocum capitales literas, ejus quoque Ægypti portionis figuram quam Δ passim vocant, clare dictum *μονογραμμα* exprimat. Kirch. Prodr. Copt. p. 231.

† Kirch. Obel. Pamph. p. 440.

‡ Cabala Saracenica, ibid. p. 372. Justin Martyr. Apolog. p. 370.

|| Sicut nomen Dei *יהוה* juxta Rab. Hakadosch, Deum generantem significat, sic et hoc (ϥ†) non apud Coptitas tantum; sed apud Ægyptios antiquos quoque Emept, seu cum aspiratione Hemept, seu *Σενϥ†*, quod nos ex Copto interpretamur (in Phtha), quasi diceret, Deum omnia peragentem in Phtha filio, quem produxit; vel, ut cum Jamblichio loquar, Emept nimirum producentem ex ovo Phtha; hoc est, intelligentiam ad exemplar suum *Ιϥϥον* generantem sapientiam, omnia cum veritate artifice disponentem, nempe Taautum; quem proinde apposite per hos characteres seu *μονογραμμα* , ♀ representabant; per circulum primum mundi genitorem, æternumque conservatorem, divinitatemque ejus ubique diffusam, per † vero sapientiam mundum gubernantem intelligentes. Kirch. Prod. Copt. p. 169.

he further conjectures, of Mercury, Thoth, Taaut, or [⬢↑] Phtha. It is certainly very extraordinary, and worthy of our notice, that this crux ansata should be so often found in their symbolical writings, either alone, or held in the hands, or suspended over the necks of their deities. Beetles, and such other sacred animals and symbols, as were bored through, and intended for amulets, had this figure frequently impressed upon them. The crux ansata therefore was, in all probability, the name of the Divine Being, as Jamblichus records it\*, that travelled through the world. We may further suppose it to be the venerable effigies of the supreme Deity, which, Apuleius † informs us, was not made in the likeness of any creature, or to be the phylactery of Isis, which, not unlike the thummim in the breast-plate of the high priest, signified, according to Plutarch ‡, *the voice of truth*. But the interpretation of this figure, the cross part of it at least, is recorded in Sozomen, and other Christian authors, as expressive of the life to come ||; being the same with the ineffable image of eternity §, that is taken notice of by Suidas. The learned Herwart also in a very elaborate dissertation, has endeavoured to prove it to be the acus nautica,

\* Jambl. de Myst. sect. 8. c. 5.

† Apul. met. l. xi. p. 262. ‡ Plut. de Isid. p. 377-8.

|| Sozomen. Eccles. Hist. l. vii. c. 15. Ruffin. Eccles. Hist. l. ii. c. 29. Suid. in Theodos. Socrat. l. ix. Hist. tripart.

§ Suid. in vocab. Ἡρώδης et Διόγνητος. Herw. Theolog. Ethic. p. 11.



nautica, or the mariner's compass, which he supposes was known to the ancients\*.

But, to return to the mathematical figures. The hemispheres of the world were represented by half disks, which, according as the circular part was placed upwards or downwards, denoted the upper or the lower hemisphere. A pyramid, or obelisk, *i. e.* an equilateral, or an acute angled triangle, with two equal sides, denoted the nature and element of fire†; but by a right angled triangle‡, was understood the nature and constitution of the universe, whereof the perpendicular expressed Osiris, or the male; the basis expressed Isis, or the female; and the hypoteneuse expressed Orus, *i. e.* the air, or sensible world, the offspring of them both. The Mundus Hylæus, as Kircher calls the material or elementary world||, was typified by a square, each side (as in the table§ of the Jewish tabernacle) representing one quarter of it.

But there was not only a mystery couched under these and such like images themselves, but the very posture, dress, and matter of some of them had their meaning. For when Isis, Osiris, &c. are represented sitting, this is a type of the

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deity's

\* Herw. Theolog. Ethnic. p. 60.

† Porphy. apud Euseb. Præp. Evang. p. 60.

‡ Plut. de Isid. p. 373-4.

|| Plut. in Alcino, c. 11, & 12. apud Kirch. Oed. Ægypt. class. vii. p. 103. Clem. Alex. Strom. l. vi. p. 474.

§ Jamb. sect. vii. c. 2.

deity's being retired within itself\*, or that his power is firm and immoveable; as the throne itself, when chequered with black and white, was emblematical of the variety of sublunary things†. When the deities and genii stand upright, as if ready for action, with their legs placed close together, this ‡ is to represent them gliding as it were through the air, without either let or impediment||; but, when the world is typified by a human figure, with its legs in this posture, this is a token of its stability. No less symbolical was the dress of their deities. For the sun, being a body of pure light, his garment, according to Plutarch§, was to be of the same colour, uniformly bright and luminous; though Macrobius¶ clothes the winged statues of the sun partly with a light, partly with a blue colour, in as much as the latter was emblematical of that luminary in the lower hemisphere. Whereas Isis, being considered as the earth, strewn over with a variety of productions, being also light and darkness, &c. her dress, agreeable to these qualities, was either to consist of a leopard's skin, or else to be otherwise spotted and variegated with divers colours\*\*. The fillets ††, which make  
part

\* Porphyry. apud Euseb. Præp. Evang. p. 61.

† Orph. de Mercurio apud Kirch. Synt. i. p. 95.

‡ Heliod. Æthiop. l. iii. p. 148.

|| Euseb. Præp. Evang. p. 69. § Plut. de Isid. p. 382.

¶ Macrobi. Sat. l. i. c. 19. \*\* Vid. not. §, supra.

†† Heliod. in Æthiop. Pigh. in Mædal. de Horis, p. 171. Pier. Hierogl. l. xxxix. c. 3.

part of her dress, or are held in her hands, represent the phases of the moon; as the tresses of her hair \*, when they are of a dark blue colour, do the haziness of the atmosphere. The rays, flames †, horns, veils ‡, &c. that are placed immediately upon the heads of these figures; the serpents §, which stand upright upon them, or issue out of their hair ¶; together with the globes, mitres ¶, feathers \*\*, palm leaves ††, &c. that are set above them, have each of them their symbolical meaning and design; being, in general, so many types of the power, nature, and attributes of that deity or genius upon which they are placed ††. The beard that is sometimes given to Osiris |||, has likewise its mystery, being symbolical of the summer solstice; at which time the sun having ascended to its greatest height, is, as it were, arrived at a state of puberty. But Silenus' bushy beard §§ was the same symbol with the tresses of Isis' hair, denoting the haziness of the atmosphere. Nay, the very black marble, or basaltæ,

\* Euseb. Præp. Evang. p. 66. Philo de vita Mosis, l. iii. p. 671. et de tabernaculi aulis agens, apud Clem. Alex. Strom. p. 665.

† Siden. Apollin. Bacchi carm. apud Diod. l. i. Vetus poetæ apud Aleandr. Exp. Tab. Heliacæ, p. 22.

‡ Kirch. Synt. xvii. p. 490. ¶ Hæsap. l. i. c. 1.

§ Val. Flac. Argonaut. l. iv.

¶ Kirch. Synt. xvii. l. i. p. 157.

\*\* Euseb. Præp. Evang. l. iii. p. 69. Dionys. Arcop. Clem. Strom. l. vi. p. 269. Euseb. Præp. Evang. l. i. c. 7.

†† Apul. Met. l. xi. p. 269. †† Kirch. ubi supra, n. ¶.

||| Macrobi. Sat. l. i. c. 18. §§ Euseb. Præp. Evang. p. 67.

basaltes, out of which some of these figures are made \*, typified, by its colour, the invisibility of their essence ; as in others, the head and feet being black, and the body of a lighter colour, might probably be symbolical of the Deity's lying concealed to us in his designs and actions, though he is apparent in his general providence and care of the universe.

Thus have I given a short sketch, and that chiefly upon the authority of the ancients, of the symbolical and hieroglyphical learning of the Egyptians ; a small portion, no doubt, of what still remains to be discovered. Kircher indeed, an author of extraordinary learning, indefatigable diligence, and surprising invention, has attempted to interpret † all the sacred characters and figures that came to his hands. But as it cannot be known certainly (the Egyptians being rude sculptors as well as painters) whether he might not take the figures themselves for such objects as the sacred scribes did not intend them, mistaking, for instance, one animal, plant, instrument, utensil, &c. for another, all reasonings and inferences, drawn from these figures, can be little more than mere conjecture ; and therefore, the remarkable boast of Isis ‡ will hold true, that *no mortal has hitherto taken off her veil*.

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\* Euseb. Præp. Evang. p. 60.

† See his Oedipus, Obeliscus, Pamphilius, &c.

‡ ΕΓΩ ΕΙΜΙ ΠΑΝ ΤΟ ΓΕΓΟΝΟΣ, ΚΑΙ ΟΝ, ΚΑΙ ΕΣΟΜΕΝΟΝ· ΚΑΙ ΤΟΝ ΕΜΟΝ ΠΕΠΛΟΝ ΟΥΔΕΙΣ ΠΩ ΘΗΗΤΟΣ ΑΠΕΚΑΛΥΨΕΝ. Plut. de Isid. et Osiride, p. 354. edit. Par.

## SECTION II.

*Of the Antiquities of Egypt, viz. of the Obelisks, Pyramids, Sphinx, Catacombs, and Mummies.*



*Of the Obelisks.*

EXCEPTING the Isiac table\*, and a few other Egyptian antiquities, the obelisks that are still preserved in Egypt, or which have been removed from thence to Rome and other places, are the principal surviving archives and repositories †, to which the sacred writing, treated of in the foregoing chapter, has been committed. The obelisks, notwithstanding the extraordinary length of several of them, have been hewn out of the quarry, not only without the least interruption, either from the perpendicular or horizontal sutures, so common elsewhere in other much lesser masses of marble, but even without the least flaw or imperfection. All of them likewise that I have seen, were of a reddish granite (πυροποικίλον marble,

\* This is likewise called the Tabula Bemina, from being once in the possession of Cardinal Bembo. It has been published by Pignorius, Herwart, and others, and is now in the possession of the Dukes of Savoy. Vid. Kirch. Oed. Ægypt. in mensa Isiaca.

† Jamblichus instruct us, [sect. 1. c. ii. de Mysteriis Ægypt.] that Plato and Pythagoras learned their philosophy from thence. This philosophy is also taken notice of by Pliny, l. xxxvi. c. 9. Inscripti (Obelisci) rerum naturæ interpretationem Ægyptiorum opera philosophiæ continent.


marble, finely polished, though the hieroglyphical characters, engraved sometimes to the depth of two inches upon them, are all of them rough and uneven; no attempt at least seems to have been ever made to polish them. Now, as we see no traces of the chissel, either upon the obelisks themselves, or in the hieroglyphical sculpture, it is probable that the latter was performed by a drill\*; whilst the obelisks themselves might receive both their figure and polish from friction. They were all of them cut from quarries of the upper Thebais, to which a branch of the Nile was conducted; and being laid upon floats (*σκαβίαι*), were brought at the time of the inundation, and left upon the very spot where they were afterwards to be erected. Lesser stones, we are told, were drawn upon chamulci or sledges.

These obelisks consist of two parts, *viz.* the shaft and the pyramidion†. As for their pedestals, (I mean of those two that continue standing, the one at Alexandria, the other at Mattareah), they lie so concealed under soil and rubbish, that I had not an opportunity to see them.

However,

\* This is called by Pausanias [in Attic.] *τετράγων* or *τρούπανος*, and was the invention of Callimachus. Steel brought from India, *σίδηρον Ἰνδικόν*, [Arrian. *Perip. Mar. Eryth.*] being the hardest, was what they made use of for their instruments, (*σίδηρον λιβύργον*), other steel not being of a sufficient temper to cut these Egyptian marbles.

† Obelisci altitudinem in decupla proportionem constituerunt ad latus quadratæ basis inferioris. Sic si obelisci cujusquam latus sit decem palmarum, altitudo erit centum. Pyramidion vero, terminans obeliscum, altitudine sua æquabat latitudinem inferiorem, sive latus basis infimæ obelisci. Kirch. *Ob. Pamph.* p. 52.

However, when the bottom of the former was laid open some years ago, by Mr. Consul Le Maire, they found the pedestal of it to be eight French feet in height, and in the like fashion with those of the Grecian and Roman architecture. The shaft is in a decuple proportion of its greatest breadth; as the whole figure is nothing more than the frustrum of a pyramid, whose sides incline towards each other in an angle of about one degree. This frustum terminates in a point, that is usually made up (by the inclination) of equilateral planes, as in the common pyramids, from whence it has received the name of the pyramidion, or little pyramid. It has likewise been observed \*, that the height of this part is equal to the greatest breadth of the obelisk; but this, I presume, will not always hold true, otherwise it would be of great importance, as will be shewn hereafter, in estimating the particular quantity or portion of these pillars that lie buried under ground. But the basis, or foot, may perhaps be the most remarkable part of these obelisks; especially if that at Alexandria is to instruct us. For this, as the late worthy person above mentioned informed me, was not square, but hemispherical, and received (in this manner ) into a correspondent cavity in the pedestal; upon which likewise were inscribed these odd characters, such as the wheel-like capreo-



lated

\* Vid. preceding note.

lated ones of Apuleius \* may be supposed to have been. It is certain that these obelisks, by being thus rounded at the bottom, would bear a nearer resemblance to darts and missive weapons, than if they were square; and consequently would be more expressive of the rays of the sun, which they were supposed to represent, as it was the sun itself to which they were dedicated †. It may likewise be presumed, as the pyramids ‡, which are obelisks only in obtuser angles, were equally emblematical of fire, or the sun, so they may be considered under the same religious view to have been no less consecrated to the same deity.

The obelisks which I have mentioned at Alexandria

\* De opertis adyti profert quosdam libros, literis ignorabilibus prænotatos; partim figuris cujusmodi animalium, concepti sermonis compendiosa verba suggerentes; partim nodosis et in modum rotæ tortuosis, capreolatimque condensis aspiciibus, a curiosa profanorum lectione munita. Apul. Met. l. xi. p. 268.

† Obelisci enormitas Soli prostituta. Hermut. apud Tertull. de spect. c. 3. Trabes ex eo fecere reges quodam certamine, Obeliscos vocantes, Solis numini sacratos. Radium ejus argumentum in effigie est; et ita significatur nomine Ægyptio, Plin. l. xxxvi. c. 8. (ΠΥΡΕΣΤΗΡΗ forsā, i. e. digitus Solis. Kirch. Obel. Pamph. p. 44.) Mesphres—duos Obeliscos Soli consecrauit. Isid. l. xviii. c. 31. Finis denique principalis, quem Ægyptii in Obeliscorum erectione habebant, erat, ut Osiridem et Isidem, hoc est, Solem et Lunam in his figuris, veluti mystica quadam radiorum representatione colerent, quasi hoc honore tacite beneficiorum, per hujusmodi secundorum Deorum radios acceptorum, magnitudinem insinuantes. Kirch. p. 161. ut supra. Other deities likewise, viz. Jupiter, Venus, Apollo, &c. were worshipped under the forms of obelisks and pyramids. Vid. Pausan. in Corinth. p. 102. Max. Tyr. Διαλεγ. λη. We learn from Clemens Alex. (Strom. l. i. p. 418.) that this method of worshipping pillars was of great antiquity. Vid. Suid. in voce.

‡ Vid. Porphy. apud Euseb. Præp. Evang. p. 60.







andria and Heliopolis, have been described by various authors. The hieroglyphics upon the latter (which I copied, and found to be the same on all sides) are exceedingly fair and legible, and indeed the whole pillar is as entire and beautiful as if it were newly finished. But the Alexandrian obelisk, lying nearer the sea, and in a moister situation, has suffered very much, especially upon that side which faces the northward; for the planes of these obelisks, no less than of the pyramids, seem to have been designed to regard the four quarters of the world. It may likewise be further observed, with regard to the obelisk of Alexandria, that the height of it, which is fifty French feet, (three whereof are buried under ground), agrees almost to a nicety with the length of one or other of the Mestrean obelisks\*, that were erected at that place. Several of the hollow hieroglyphical characters upon the Heliopolitan obelisk, are filled up with a white composition, as if they were enamelled; and at first sight engaged us to imagine, that all of them were originally intended to be so. But, upon a stricter view, this appeared to have been done by the hornets, which, in the summer season, are apt to fix their nests in these cavities.

Diodorus † instructs us, that Sesostris erected two obelisks at Heliopolis, each of them a hun-

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dred.

\* Et alii duo sunt Obelisci Alexandriae, in portum ad Cæsaris templum, quos excidit Mesphres rex quadragenum binum cubitorum. Plin. l. xxxvi. c. 9.

† Diod. l. i, p. 38.

dred and twenty cubits high, and eight broad ; and we learn from Pliny \*, that Sochis and Ramises erected each of them four, whereof those of Sochis were forty-eight, and those of Ramises forty cubits only in height. The breadth of the lower part of this, which I am speaking of, is only six feet ; and the whole height, according as I measured it by the proportion of shadows, was no more than sixty-four ; though other travellers have described it to be upwards of seventy. Provided then we could determine which of the above mentioned pillars this remaining one should be, and know at the same time the exact height of it, we might thereby compute the quantity of mud that has been accumulated upon the adjacent soil, since the time that it was erected. Now, those that were raised by Sesostris are vastly too high, as those of Ramises are as much too low, to lay the least pretensions to it. In all probability therefore, this which I am describing must be the surviving obelisk of those that were erected by Sochis ; further notice whereof will be taken in another place.

*Of the Pyramids.*

THERE is no point in history that has been so often, and at the same time so variously treated of, as the pyramids of Memphis. The ancients abound with a diversity of accounts and descriptions

\* Plin. l. xxxvi. c. 8.

tions concerning them, whilst the moderns, after a much longer course of observations, have rather multiplied the difficulties than cleared them.

The dimensions of the great pyramid have given occasion to one dispute. Herodotus \* makes the base of it to be eight hundred feet long, Diodorus † seven hundred, and Strabo ‡ only six hundred. Among the moderns, Sandys || found it to be three hundred paces, Bellonius § three hundred and twenty-four, Greaves ¶ six hundred and ninety-three English feet, and Le Brun \*\* seven hundred and four (as we may suppose them to be) of France, which make about seven hundred and fifty of our measure. There is no way to reconcile these differences, and it would be unjust to charge these authors with designed mistakes. Thus much then in general may be said, in defence and vindication of errors and disagreements of this kind, that at present none of the sides of this pyramid are exactly upon a level. For there is a descent in passing, from the entrance into it all along by the eastern corner, to the southern; there is again an ascent from this to the western point, whilst the sides which regard the W. and the N. have been greatly encroached

\* Herod. Eut. § 124.

† Diod. Sic. Bibl. l. i. p. 40.

‡ Strab. Geogr. l. xviii. p. 555.

|| Sandys' Trav. p. 99. edit. 6.

§ Bellon. Obser. l. ii. p. 269.

¶ Vid. Greavii Pyramidographia.

\*\* Le Brun's Voyage, c. 36.

croached upon, by those large drifts of sand which the Etesian winds, during a long course of years, have brought along with them. As therefore it will be difficult to find its true horizontal base, or foundation, it being likewise uncertain (which is the chief thing to be considered) how far these drifts of sand may have been accumulated above it, all calculations of this kind must be very different and exceedingly precarious, according to the position of the adjacent sands, and to other circumstances at the time particularly when these observations were made.

Neither does it appear that either this, or any other of the three greater pyramids was ever finished. For the stones, in the entrance into the greatest, being placed archwise, and to a greater height than seems necessary for so small an entrance, there being also a large space left on each side of it, by discontinuing several of the parallel rows of steps, which, in other places, entirely surround the pyramid; these circumstances, I say, in the architecture of this building, seem to point out to us some further design, and that, at this entrance, there might have been originally intended a large and magnificent portico. Neither were these steps (or little altars, *βυρσοι*, as Herodotus\* calls them) to remain in the same condition; in as much as they were all of them to be so filled with prismatical stones, that each side of the pyramid, as in Cæstius' at Rome, was  
to

\* Herod. Eut. § 125.

to lie smooth and upon a plane. Yet nothing of this kind appears to have been ever attempted in the lesser or in the greater of these pyramids, the latter of which wants likewise a great part of the point where this filling up was to commence; but in the second, commonly called Chephrenes' pyramid, which may hint to us what was intended in them all, we see near a quarter of the whole pile very beautifully filled up, and ending at the top in a point. The stones wherewith the pyramids are built, are from five to thirty feet\* long, and from three to four feet high, agreeable perhaps to the depth of the strata from whence they were hewn. Yet, notwithstanding the weight and massiness of the greatest part of them, they have all been laid in mortar, which at present easily crumbles to powder, though originally, no doubt, it was of greater tenacity, as the composition of it seems to be the same with what is still made use of in these countries †.

The ancients ‡ inform us, that the stones were brought from the mountains of Arabia, or from the Trojan mountains||. Yet, notwithstanding  
the


\* Herodotus makes none of these stones less than thirty feet, *ibid.* § 124.

† Vid. not. vol. i. p. 372.

‡ Herod. Eut. § 124. Diod. Sic. l. i. p. 40. Plin. l. xxxvi. c. 12.

|| So called, from being in the neighbourhood of Troy, which was built by the followers or slaves of Menelaus, in the upper Egypt. Strab. l. xvii. p. 809. *Universum autem littorale latius juxta Arabicum sinum tenent Arabes Ægyptii ichthyophages, in quibus dorsa montium sunt, Troici lapidis montis, et Alabastrini montis,*

the great extravagance and surprising undertakings of the Egyptian kings, it does not seem probable that they would have been at the vast labour and expence of bringing materials at so great a distance, when they might have been supplied from those very places where they were to be employed. For what makes the bulk and outside at least of all these pyramids, is not of marble, but of free-stone, which is of the same nature and contexture, has the like accidents and appearances of spars, fossil shells, coralline substances \*, &c. as are common to the mountains of Libya. In like manner, Joseph's Well, as it is called at Kairo; the quarries of Mocatte, near the same place; the catacombs of Sakara, the Sphinx, and the chambers, that are cut out of the natural rock, on the east and west side of these pyramids, do all of them discover the specific marks and characteristics of the pyramidal stones,

montis, et Porphyritici montis, et Nigri lapidis montis, et Balanitis lapidis montis. Ptol. Geogr. l. iv. c. 5.  Λιθος, or lapis, was indifferently used by the ancients for *free-stone* or *marble*. The λιθοτομιαί also, or lapicidinæ, equally regarded them both. Marble was so called (απο τη μαρμαριον) from shining upon being polished; the same with λιθος ξιστος and λαμπρος and πολυτιλος. It does not appear that marble was used by the Grecian artists, either in sculpture or building, before the fifteenth Olympiad, bef. Chr. 720. Dædalus' statues of Hercules and Venus, were of wood, of which, or of rough stone, were likewise their idols and temples, till that time. The ancient temple of Delphi was built about Olymp. LXV. bef. Chr. 520, or 513 years after the temple of Solomon.

\* Especially of such as Strabo calls, and believed to be petrified lentils, telling us, that they were originally the food of the workmen. Strab. Geogr. l. xvii. p. 556. See the catalogue in the *Collectanea*.



stones, and, as far as I could perceive, were not at all to be distinguished from them. The pyramidal stones therefore were, in all probability, taken from this neighbourhood; nay, perhaps they were those very stones that had been dug away, to give the Sphinx, and the chambers I have mentioned, their proper views and elevations.

It may be further observed that the pyramids, especially the greatest, is not an entire heap of hewn stones; in as much as that portion of it, which lies below the horizontal section of the entrance, appears to be nothing more than an incrustation of the natural rock, upon which it is founded. For, in advancing through the narrow passage, this rock is twice discovered; the lower chamber also, together with the well, (whose mouth lies upon a level with it), have the like appearance, whereby a considerable abatement would be made in such foreign materials as might otherwise have been required.

It is very surprising, that the pyramids, which, from their first foundation, must have been looked upon with wonder and attention, should not have preserved a more certain tradition of the time when they were founded, or of the names of their founders. Pliny\* reckons up a number of  
authors,

\* Qui de iis [pyramidibus] scripserunt, sunt Herodotus, Euhemerus, Duris Samius, Aristagoras, Dionysius, Artemidorus, Alexander Polyhistor, Butorides, Antisthenes, Demetrius, Demotiles, Apion. Inter omnes eos non constat a quibus factæ sunt,

authors, who have written of the pyramids ; and all of them, he tells us, disagree concerning the persons who built them. Now as Egypt had been, from time immemorial, the seat of learning, where it was likewise pretended that a regular and chronological \* account had been kept of all the remarkable transactions of their kings ; it is much that the authors of such great undertakings should be so much as even disputed. Yet we find there were various accounts and traditions concerning them. For it is said †, that Suphis built the first, and Nitocris the third ; that the second was raised, as Herodotus ‡ acquaints us, from the money which the daughter of Cheops procured, at the expence of her chastity ; and again, that the two greater were the work of the shepherd Philiton ; and the least had the harlot Rhodope for its foundress. Others again, which is the most general opinion, make Cheops (or Chemmis), Cephrenes, and Nycerinus to be the founders of them. Herodotus indeed, who has preserved these reports, does not give much credit to them ; however, it may be justly enough inferred from thence, that as the chronology of the pyramids, those wonders of the world, was thus dubious and obscure, there is a sufficient ground

sunt, justissimo casu obliteratis tantæ vanitatis autoribus. Nat. Hist. l. xxxvi. c. 12. The like account we have in Diodorus, l. i. p. 41.

\* Herod. Eut. § 124. 127. 134. & 125. Diod. l. i. p. 29.

† Maneth. apud Syncell. Chronol. p. 56. & 58.

‡ Herod. ut supra.

ground to suspect the correctness and accuracy of the Egyptian history in other matters.

Neither is there an universal consent among these authors, for what use or intent they were designed. For Pliny \* asserts, that they were built for ostentation, and to keep an idle people in employment; others, which is the most received opinion, that they were to be the sepulchres of the Egyptian kings †. But if Cheops, Sphis, or whoever else was the founder of the great pyramid, intended it only for his sepulchre, what occasion was there for such a narrow sloping entrance into it; or for the well ‡, as it is called, at the bottom of the gallery; or for the lower chamber, with a large nich or hole in the eastern wall of it; or for the long narrow cavities in the walls or sides of the large upper room, which likewise is incrustated all over with the finest granite marble ||; or for the two anti-chambers, and the lofty gallery §, with benches on each side that introduce us into it? As the whole of the Egyptian theology was clothed in mysterious emblems and figures, it seems reasonable to suppose, that all

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these

\* Plin. l. xxxvi. c. 12.

† Lucan. l. ix. ver. 155. & l. viii. ver. 698. Strab. Geogr. l. xvii. p. 461. Diod. Sic. Bib. l. i. p. 40.

‡ Plin. l. xxxvi. c. 12.

|| Vitruvius, l. vii. c. 5. mentions, crustarum marmorearum varietates, in quo (says he) Romani Ægypties imitabantur.—In contradistinction to this method of incrustating, we have columnæ solidæ sometimes mentioned. Plin. l. xxxvi. c. 6.

§ See the description of these several places in Greaves' *Pyramidographia*.

these turnings, apartments, and secrets in architecture, were intended for some nobler purpose, for the catacombs, or burying places, are plain vaulted chambers, hewn out of the natural rock; and that the Deity rather, which was typified in the outward form of this pile\*, was to be worshipped within. The great reverence and regard which Suphis† in particular, one of the supposed founders, is said to have paid to the gods, will not a little favour such a supposition; and even provided this should be disputed, no places certainly could have been more ingeniously contrived for those secret chambers, or adyta, which had so great a share in the Egyptian mysteries and initiations.

It has been already observed, that Chephrenes was supposed to have built the second pyramid, and Mycerinus the third; but for what intent? not to be their sepulchres, in as much as there being no passage left open into them, as into the great pyramid, they must have been pulled down, and built again after their decease, before their bodies could have been introduced and deposited within them. If indeed we had any tradition that these pyramids had been built by some pious successors over the tombs of their ancestors, there would then be less occasion to call in question an opinion that has been so generally received. . But  
if

\* Vid. vol. ii. p. 185. 193.

† Ουτος δε και ο προπτης [προπτης, Contemplator, Marsh. Chron. Canon. p. 51.] ος θως γινετο, και την ιεραν συνεχεα βιβλην, ην ος μογε χερμα εν Αιγυπτω γινωμενος [Manetho] εκησαμεν. Syncell. p. 56.

if no report of this kind occurs in history, if the founders made no provision in them for their interment, but contrived them, as far as we know or are informed, to be close compact buildings, it may be so far presumed, that the two lesser pyramids at least could never have been intended merely for sepulchres.

But it may be urged, that the square chest of granite marble, in the upper chamber of the great pyramid, has always been taken for the coffin of Cheops; and consequently that the pyramid itself might have been intended for the place of his sepulture. Might not this chest have been rather designed for some religious use; and to have been concerned either in the mystical worship of Osiris\*, or to have served for one of their *misai heui* †, or sacred chests, wherein either the images of their deities, or their sacred vestments ‡ or utensils were kept; or else that it was a favissa, or cistern§ for the holy water, used in their ceremonies and purgations. The length§ of it, which is above six feet, does indeed favour the received opinion; but the height and the breadth, which are each about three feet, very far exceed the

\* Plut. de Iside, p. 365-6. † Apul. Met. l. xi. p. 262.

Part obscura cavis celebrabant orgia cistis. Cat.

----- tacita plenas formidine cistas. Val. Flacc.

‡ Particularly of such as were carried about in their comasie (ΚΩΜΑΣΙΑΙ). Clem. Strom. l. v. p. 413.

§ Vid. Fest. in voce Favissa. Abeneph. de relig. Ægypt. ap. Kirch. Obel. Pamph. p. 473.

§ Vid. p. 208. not. †.

the usual dimensions of the Egyptian coffins. Those which I have seen, and by them we may judge of others, were of a different form, being inscribed with hieroglyphics, and made exactly in the fashion of the mummy chests, just capacious enough to receive one body. Whereas this pretended one of Cheops is in form of an oblong square; neither does it end, as the mummy chests do, in a pedestal, whereupon (as the fashion itself demonstrates) they were to be erected and set upright. Neither is it adorned with any sacred characters, which, from the great number of coffins that are never known to want them, seem to have been a general as well as a necessary act of regard and piety to the deceased. The manner likewise in which it is placed, is quite different, as I have just now hinted, from what was perhaps always observed by the Egyptians, in depositing their dead bodies; in as much as the mummies always stand upright\*, where time or accident have not disturbed them. Whereas this chest lies flat and level with the floor; and thereby has not that dignity of posture which we may suppose this wise nation knew to be peculiar, and therefore would be very scrupulous to deny to the human body. If this chest then was not intended for a coffin, (and indeed Herodotus † tells us that

\* Herod. Eut. § 86. Diod. Sic. l. i. p. 58.

*Ægyptia tellus*  
*Claudit odorato post funus stantia busto*  
*Corpora.* *Sil. Ital. l. xiii. ver. 475.*

† Herod. Eut. § 127.

that Cheops was buried upon an island, in the vaults below, where the Nile was admitted, the same probably with the bottom or end of the passage, where Strabo places the θηκη), we have so far a presumptive argument, that the pyramid itself could not, from this very circumstance, have been intended only for a sepulchre. Nay, upon the very supposition that Cheops and others had been buried within the precincts of this or any other of the pyramids, yet still this was no more than what was practised in other temples \*; and would not therefore destroy the principal use and design for which they might have been erected. And indeed I am persuaded, that few persons who will attentively consider the outward figure of these piles; the structure and contrivance of the several apartments in the inside of the greatest; together with the ample provision that was made near this and the second pyramid, for the reception, as it may well be supposed, of the priests, who were there to officiate; but will conclude, that the Egyptians intended the larger of them for one of the places, as all of them were to be the objects at least, of their worship and devotion.

Strabo †, as far as I know, is the only person among the ancients, who seems to have been acquainted with the narrow entrance into the great pyramid,

\* Herod. Eut. § 169. Thal. § 10. Clem. Alex. Cohort. ad Gentes, p. 39.

† Έχει δ' εν υψω μίσης πως των πλευρων λιθοι εξαιριστοι. κρηντας δι συριγγε εις σκολια μεχρι της θηκης. l. xvii. p. 1161.

pyramid, which, he tells us, had a stone placed in the mouth of it to be removed at pleasure. We have only a small ascent up to this entrance at present, which, in his time, was situated much higher, or nearly in the middle of the pyramid; whereby we are sufficiently apprised of the extraordinary encroachments, which the annual drifts of sand have, since that time, made upon the original foundation. However, if this passage had been thus early left open, whether it continued directly forward in the same angle of descent, *viz.*  $26^{\circ}$ , quite down to the subterraneous chambers; or whether from these subterraneous chambers, the ascent was to be by the well into the upper ones; or whether we were to stop short, as at present, about the middle of this passage, and turn on our right hand, through a narrow irregular breach, which, according as it is previously cleared from sand and rubbage, is with more or less difficulty to be passed through, and may be therefore suspected to claim no great antiquity; it is very extraordinary, I say, that this passage, with the *Sarcophagus*, or coffin, at the bottom of it, should have been known to Strabo; that the vaults and subterraneous chambers should have been known to Strabo and Herodotus; that the well should have been known to Pliny; and yet, that no particular account or description should have been left us, either of the square vaulted chamber, that lies upon the same floor with the well; or of the long and lofty gallery that arises from thence; or of the two closets or anti-



anti-chambers, with their niches and other devices, which we enter, upon our arrival at the top of this gallery ; or of the most sumptuous and spacious chamber, incrustated all over with granite marble, that we are conducted into afterwards ; or of the square chest, commonly called the tomb of Cheops, which is placed upon the floor, on the right hand, in entering this chamber. And as all these places were very curious and remarkable, it is the more unaccountable why they should have been neglected or overlooked, or the descriptions of them have been omitted by those authors ; especially as the wall, which would have easily introduced them into this large scene of antiquity, was well known to one of them.

An Arabian historian \* acquaints us, that this pyramid was opened, perhaps through the breach I have mentioned, about nine hundred years ago, by Almamon, the renowned Calif of Babylon ; and that ‘ they found in it, towards the top, a  
‘ chamber, with a hollow stone, in which there  
‘ was a statue like a man, and within it a man,  
‘ upon whom was a breast-plate of gold, set with  
‘ jewels. Upon this breast-plate there was a  
‘ sword of inestimable price ; and at his head a  
‘ carbuncle, of the bigness of an egg, shining  
‘ like the light of the day ; and upon him were  
‘ characters writ with a pen, which no man understood.’ But this, it may be presumed, is of the

\* Ibn Abd Alhokm, as he is recorded by Mr Greaves in the *Pyramidographia*.

the same authority, with what the same author observes in another place, that 'he who built the pyramids, was Saurid ibn Salhouk, the king of Egypt, who was before the flood 300 years.' But passing over these idle traditions and accounts, it is remarkable and particular enough, that this chest, in striking it with a piece of iron, should give the same musical note (*E-la-mi*, if I mistake not) with the chamber, whereby we may suppose it to have proportionable and similar dimensions; as indeed they are given by Pere Sicard\*, though different from what they are in Mr Greaves' *Pyramidographia*†. We are to observe further, that this chest is fixed so strongly in the floor, that a number of persons who were with me, were not able to move it. It is situated (perhaps not without a mystery) in the same direction with the mouth of the pyramid, directly to the northward; a position that was likewise given to the doors of other Egyptian edifices ‡.

*Of*

\* See the particulars of this mensuration in the *Collectanea*.

† The exterior superficies of this tomb contains in length seven feet, three inches and an half. In depth it is three feet, three inches, and three quarters; and is the same in breadth. The hollow part within is in length on the W. side, six feet and  $\frac{418}{1000}$ . In breadth, at the N. end, two feet and  $\frac{318}{1000}$ . The depth is two feet, and  $\frac{860}{1000}$  parts of the English foot. The length of the chamber on the south side is thirty-four feet and  $\frac{180}{1000}$ . The breadth is seventeen feet and  $\frac{120}{1000}$ . The height is nineteen feet and  $\frac{1}{2}$ . Vid. Pyramid. ut supra. N. B. Bellonius, to shew how subject the most curious observers are to mistakes, makes the length of this tomb to be twelve feet. Obs. l. ii. c. 42.

‡ Herod. Eut. § 101. 148. In this situation likewise the table of shew-bread was placed in the tabernacle. Exod. xl. 22.

*Of the Sphinx.*

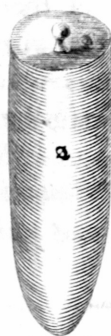
BESIDES what has been already said of the Sphinx, we are to observe, that in July 1721, the sands were so far raised and accumulated about it, that we could only discover the back of it; upon which, over the rump, there was a square hole, about four feet long, and two broad, so closely filled with sand, that we could not lay it open enough to observe whether it had been originally contrived for the admission of fresh air; or, like the well in the great pyramid, was intended for a stair-case. Upon the head of it there is another hole, of a round figure, which I was told, for we could not get up to it, is five or six feet deep, and wide enough to receive a well grown person. The stone which this part of the head consists of, seems, from the colour, to be adventitious, and different from the rest of the figure, which is all of the same stone, and hewn out of the natural rock. It must be left to future travellers to find out whether these holes served only to transmit a succession of fresh air into the body of the sphinx, or whether they might not have had likewise a communication with the great pyramid, either by the well, or by the cavity or nich in the wall of the lower chamber, that lies upon a level with it. Nay, it may some time appear, that there are chambers also in the two other pyramids; and not only so, but that the eminence likewise, upon which they are

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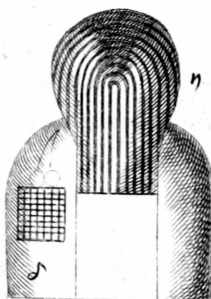
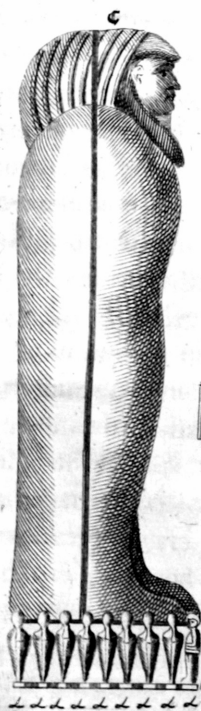
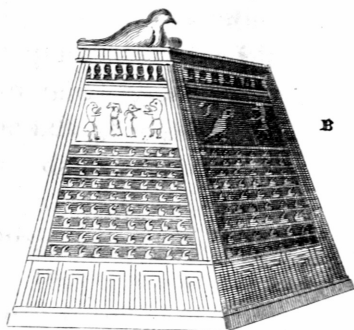
both erected, is cut out into cryptæ, narrow passages and labyrinths, which may, all of them, communicate with the chambers of the priests, the artful contrivers of these adyta; where their initiatory, as well as other mysterious rites and ceremonies, were to be carried on with the greater awe and solemnity.

*Of the Mummies.*

THE accounts that have been hitherto given us of the mummies, seem to be very imperfect; and indeed the catacombs at Sakara, which are commonly visited, have been so frequently rifled and disturbed, that nothing has preserved its primitive situation. There are still remaining in some of these vaults, a great number of urns of baked earth, in a conical shape, in each of which is contained an ibis, with the bill, the bones, nay the very feathers of it, well preserved. For (if we except the hieroglyphical writing) the same bandage and mixture of spices, that was applied to the human body, were bestowed upon this. But the skull, and some other bones of an ox, the apis, as it may be presumed to have been, which I saw, looked white, and as it were bleached, neither did they discover the least token of having been ever embalmed. There were several little wooden figures also, of the same quadruped, that were painted white, with their legs tied together, as if ready to be sacrificed. I saw, at the same time a small vessel like a sloop, with the  
masts



The embalm'd Bird  
taken out of the Urn.





masts and sails entire, and the men handling their oars.

Little square boxes, usually painted either with symbolical figures or hieroglyphies, are found in these catacombs. The figure of a hawk is commonly fixed upon each of the lids, though I have one that is surmounted with a dog\*, and another with an owl; each of them of solid wood, and painted in their proper colours. I was at a loss to know for what other uses these boxes could have been designed, than to be the coffins of their sacred animals, when Mr. Le Maire, who had been at the opening of a new vault, informed me, that one of them was placed at the feet of each mummy; and therein were inclosed the instruments and utensils in miniature, which belonged to the trade and occupation of the embalmed person when he was alive. He shewed me one of them, which contained a variety of figures in lascivious postures, and had therefore appertained, as he conjectured, to some lady of pleasure or curtizan. Among other figures, there was a Bacchus in copper, a hollow phallus in alabaster, several small earthen vessels for paint, and the joint of a reed, which had within it a pencil and some powder of lead ore, the same that is still used by the women of these countries†. These boxes, the mummy chests, and whatever figures and instruments of wood are found in the catacombs, are

\* This is expressed in plate xxiv. fig. 4. of Mr Alex. Gordon's collection of Egyptian antiquities.

† Vid. vol. i. p. 413.

are all of them of sycamore, which, though spongy and porous to appearance, has notwithstanding continued entire and uncorrupted for at least three thousand years. A little behind the boxes, a number of small images of baked earth, in the form of the mummy chests, some blue, others white, others pied or in the habit of a nun, are ranged around the pedestal of the mummy chests, as if they were intended to be so many guardian genii and attendants. I have already observed, that these bodies were originally placed upright; and where we find one or other of them lying on the ground, there we may suppose them to have been lately removed from their places; or that the Egyptians had been, some way or other, prevented from duly performing their last offices to the dead.

The composition that is found in the heads of the mummies, looks exactly like pitch, but is somewhat softer; the smell of it also is the same, though something more fragrant. It is probably the tar extracted from the cedar \*. In examining  
two

\* Apud Ægyptios cadaver fit *ταριχος*, i. e. salstra, sive mummia uti appellant recentiores medicorum filii, ab Arabico (Persicopotius) *Moom Wax*, i. e. cera; quia ceromate etiam in eo negotio utebantur. Gatak. Annot. in M. Anton. p. 275. Mummia vulgo; Pissasphaltum (ή ρζυσα πισσης μμμηγμης ασφαλτω). Dioscorides, l. i. c. 101. Gol. Dict. Pliny (l. xvi. c. 11.) makes this composition to be the tar of the torch pine, which he calls cedria; from whence we may rather take it to be the tar of the cedar tree, according to Dioscorides, l. i. c. 106. *Κεδρος διδρασις μεγα, εξ ης λεγομενη ΚΕΔΡΙΑ συνιγεται.*---*Δυσταμιν δι ιχνη σπητι- κην μει τωι ψωφωχω, φυλακτικην δε τωι νεκρω σωματων* οδιν και νεκρω ζωνι τινος αυτην εκαλισαν. *Liquor picis, quæ aquæ modo fluit ex tæda*



two of these mummies, after taking off the bandage, I found the septum medium \* of the nose to have been taken away in them both ; and that the skulls were somewhat thicker than ordinary †. One of these skulls is preserved among my other curiosities. There were few or none of the muscular parts preserved, except upon the thighs ; which, notwithstanding, crumbled to powder upon touching them. The like happened to that part of the bandage which more immediately enveloped the body ; though fifty yards and upwards of the exterior part of it was, upon unfolding it, as strong in appearance, as if it had been just taken from the loom. Yet even this, by being exposed to the air, was, in a few days, easily rent to pieces. I found neither money in the mouths, nor idols in the breasts of these mummies, as I might have expected from the common reports that have been related of them.

## SEC-

*tæda dum coquitur, cedrinus vocatur ; cui tanta vis est, ut in Ægypto corpora hominum defunctorum eo perfusa servantur.* Colum. de re Rustica, l. vi. c. 32.

\* The septum medium of the nose is taken away, as well for the easier extraction of the brain, as for the injection of the pitch-like substance into it. *Πρῶτα μιν σκολιῶ σιδήρῳ δια τῶν μυνξ-ἡντων ἐξαγωγή τοι ἐκίφαλοι, τὰ μιν αὐτὴ ὕψι ἐξαγωγήτις, τὰ δὲ φάρμακα ἐχέοντις.* Herod. Eut. § 86.

† Herodotus makes the Egyptians to be remarkable for the thickness of their skulls. *Αἱ δὲ τῶν Αἰγυπτίων (κεφαλῆαι) ὕψι δὴ τί σχυραὶ, μόγις ἀν' λίθῳ πᾶσις διαρρήξαις.* Herod. Thal. § 12.

## SECTION III.

*Of the Nile, and the Soil of Egypt.*

OF such things as relate to the natural history of Egypt, the Nile, without doubt, is the most worthy of our notice, and to which we shall therefore give the first place. Now it has been already observed, that it seldom rains in the inland parts of Egypt; but that upon the coast, from Alexandria, all along to Dami-ata and Tineh, they have their former and latter rains \*, as in Barbary and the Holy Land. The periodical augmentation therefore of the Nile must be owing to such rivers and torrents as discharge themselves into it, in the regions to the southward, particularly in Ethiopia; in as much as the Nile has there its sources, where the sun also, when it draws near the northern tropic, brings on their winter, and with it the rainy reason. The Portuguese missionaries † claim the honour of this discovery;

\* See vol. i. p. 249, &c. and vol. ii. p. 137. and the journal of the weather amongst the *Collectanea*, Nuff. xi.

† To the immense labours of the Portuguese, mankind is indebted for the knowledge of the real cause of the inundations of the Nile, so great and regular. Their observations inform us, that Abyssinia, where the Nile rises, and waters vast tracts of land, is full of mountains, and in its natural situation much higher than Egypt; that all the winter, from June to September, no day is without rain; that the Nile receives in its course all the rivers, brooks and torrents, which fall from those mountains. These necessarily swell it above the banks, and fill the plains of Egypt

discovery ; though, among others, we find some of the Grecian as well as Arabian philosophers \*, who have embraced the same opinion. Among the latter, Abdollaliph, in his history of Egypt, acquaints us, that *an. Hej.* 596, when the Nile rose no higher than twelve cubits and eleven digits, (which occasioned a great famine in Egypt), there came an ambassador from Ethiopia, who brought letters signifying the death of their metropolitan, and requesting a successor ; wherein it was mentioned that they had had but little rain in Ethiopia, and therefore the Egyptians were to expect a low Nile.

It has been commonly imagined, that the Etesian or northern winds, which blow over the Mediterranean Sea, by carrying along with them great quantities of vapour, as far as these sources of the Nile, were the cause of its inundation. But these winds are not found by experience to blow constantly from the beginning to the end of the inundation, as Herodotus (*Eut. p. 109.*) has well observed, but are frequently interrupted with

Egypt with the inundations. This comes regularly about the month of July, or three weeks after the beginning of the rainy season in Ethiopia. *Vid. Monthly Library for March 1735. P. Lobo's Hist. of Abyssinia.*

\* *Diod. Sic. l. i. p. 26, 27. Vid. Plut. de placit. Philos. l. iv. c. 1. Incrementum Nili fit e pluviis, qui in illa regione (sc. Abyssinia) decidunt. Ebn Sina apud Abulf. Geogr. ex tractat. v. cl. J. Gagnier. Incrementum Nili oritur ex imbris copiosis ; quod quidem dignoscitur ex accessu et recessu, seu ortu et occasu siderum, et pluviarum abundantia, nubiumque consistentia. Al Khodai apud Kalkasend. de incremento Nili, ex tractat. ut supra.*

with winds from other quarters. And moreover, if these winds blow not directly from the north, but incline, as they generally do, more or less to the E. or W. they will diverge from the mountains of Ethiopia, where their influence is required, and direct their courses, together with the clouds and vapours that accompany them, towards the regions of Libya or Arabia.

Neither do these Etesian winds always bring along with them such successions of clouds and vapours as have been related by some authors. For, in the year 1721, during the whole course of the inundation, which was as high and copious as usual, I observed very little, or nothing at all of this cloudy disposition of the atmosphere, the air being for the most part as clear and serene as at other times. And besides, if these Etesian winds were the cause of the overflow, then, as often as they continued for any considerable time, they would be succeeded by inundations. Great floods would consequently happen both in the spring and in the winter seasons, when the winds blow for a month together, in various directions, from the N. E. to the N. W. But, as these winds are not attended with any extraordinary swellings of the river at these seasons; so they may well be suspected not to contribute at all to the periodical rising in the summer. It is more probable, that such clouds and vapours as are brought along with them at these no less than at other times from the Mediterranean, may be dissipated, dried up, or converted into rain, a  
long

long time before they arrive at the fountains of the Nile.

Yet how wonderful soever this large conflux of water may have been accounted in all ages, the great quantity of mud that from time to time has been brought down along with it, will appear to be no less strange and surprising. Surely the soil of Ethiopia, (provided the Nile reaches no further) must be of an extraordinary depth, in having not only bestowed upon Egypt so many thousand annual strata, but in having laid the foundation likewise of future additions to it in the sea, to the distance of twenty leagues; so far at least, by sounding and examining the bottom of it with a plummet, the mud is found to extend.

The soil or mud that is thus conveyed, buoyed up with the stream, is of an exceedingly light nature, and feels to the touch like what we commonly call an impalpable powder. Plutarch\* tells us, that the colour of it is black; such a black, says he, as is that of the eye; though, in another place†, he makes every thing black where water is concerned. The appellations also of ΜΕΛΑΣ and שחור ‡, are supposed to have been given to it, either upon the same account ||, or from the

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2 E

muddiness

\* Plut. de Iside, p. 364.

† Plut. ut supra.

‡ שחור a שחור sc. niger fuit. So Jer. ii. 18. *What hast thou to do in the way of Egypt, to drink מי שחור the waters of Sihor, or the black or muddy waters?* שחור Sichor, fluvius Ægypti Nilus, Græcis μέλας, niger, ob turbidas limo aquas: Latinis Melo, et literis M et N permutatis, Nilus. Schind. Lex.

|| Advenit Ægypto lutum nigrum viscosum, cui inest multum pinguedinis

muddiness only of the water. The specimens of it, which I have often examined, were of a much lighter colour than our common garden mould; neither does the stream itself, when saturated with it, appear blacker than other rivers under the same circumstances. As for the Nile, (or Nil, as it is pronounced by the inhabitants), it is, in all probability, as I have before observed, a contraction of Nahal, [נַחַל] i. e. *the river*, by way of eminence. Abdollaliph (*Tract. xi. c. 1*) derives it from *Nil*, which signifies *to give, to bestow, or to be liberal*; according to which etymology, he makes the Nile to signify *the magnificent giver of good things.* But this seems rather to be a fine thought, than a just account of the origin of the name.

In order to measure the increase of the Nile, there is built upon the point of the island Rhoda, betwixt Kairo and Greeza, a large room, supported by arches, into which the stream has free admittance. In the middle of it is placed the Mikas, or measuring pillar, which is divided into cubits, as the ancient Nilescopes\* appear to have been.

pinguedinis, dictum Al-Abfiz. Advenit hoc e regionibus Nigritarum aquis Nili in incremento suo admixtum, et decedente aqua subsidet lutum, tumque aratur et seritur. Et quotannis advenit ipsi recens lutum.—Ob hanc causam terra Said vegeta est, multi proventus pabulique, quia initio propior est, ideoque ad eam perfingit magna hujus luti copia, contra ac inferior terre pars (prope Demiatam sc. et Rosettam) ea siquidem sterilis est et macilentia, quia lutum ejus tenue est et debile; siquidem aqua, quæ ad eam provenit, tenuis est et limpida.—Incrementum Nili ad finem provenit sub æquinoctio autumnali; tum attem recluduntur aggeres, qui omnes terræ partes inundant. Abdollaliphi Hist. Egypt. p. 5.

\* Diod. Sic. l. i. p. 23. Strab. l. xvii. p. 562.

been. But the cubit itself, or peek, *παχυς*, as it is still called, has not continued the same. For Herodotus acquaints us, that in his time the Egyptian peek, or cubit, was the same with the Samian\*, which, being no other than the common Grecian or Attic cubit†, contained very little more† than a foot and a half of English measure. Three or four centuries afterwards, when the famous statue of the Nile, that is still preserved at Rome, was made, the cubit seems to have been, a little more or less, twenty inches; for of that height, according to the exactest measure that could be taken, are the sixteen little children that are placed upon it, which, according to Philostratus‡ and Pliny, represented so many cubits. The present cubit is still greater; though it will be difficult to determine the precise length of it. And indeed, with regard to the measures of the Arabians, as well as of some other nations, we have very few accounts or standards that we can trust to.

For Kalkasendas § makes the Hasemæan, or great

\* Herod. Eut. § 168.

† Id. ibid. § 149.

‡ Our Professor Greaves makes the difference betwixt the English and Greek foot (and so in proportion of the cubit) to be as 1000 is to 1007  $\frac{1}{10}$ .

§ Philost. Icon. de Nilo. Plin. l. xxxvi. c. 7.

§ Septem autem genera cubitorum Arabicorum recenset Calcosendi Philologus: 1. Cubitus Homaræus,  $1\frac{1}{2}$  cubiti communis et *purqay*, *Diraa ul Beia*, i. e. commercial cubit. Hoc mensus est olim Homarus Ehn Cottabi spatium inter Basram et Cufam. 2. Hasemæus, qui et cubitus major nuncupatur, digitorum 24. Digitus vero occupat 7 bordea lata, aut  $7 \times 7 = 49$  pilos burdonis. Illo vero cubito æstimatio versat in jure Mohammedico. Idem testatur Maruphidas. 3. Belalæus,

great peek, to be only twenty-four digits, or eighteen inches; whereas the Arabian author, quoted by Golius\*, will have it to be thirty-two, *i. e.* twenty-four inches. The Drah el Soudah, or black peek likewise, which the former observes to be no more than twenty-one digits in length, is made by the latter to be twenty-seven. And moreover, the digit of Kalkasendas is equal to a space taken up by seven barley-corns, placed side ways; whereas six † is the measure, according to Golius' author. Now, agreeable to Kalkasendas, as he is quoted by Dr Bernard, the Drah el Soudah, (*i. e.* the cubit of twenty-one digits), is that by which the Nile was measured; whereas, in the same author's dissertation upon the Nile-scope‡, the measuring cubit is there defined to be expressly of twenty-eight digits. Thevenot||, in giving us an account of the daily increase, reckons

lalæus, Hasemæo minor. 4. Cubitus niger, Belalæo cedet digitis  $2\frac{2}{3}$ , ab Æthiope quodam Rasidi principis a latere nomen et modum suum habet. Mensura ædificiorum NILOMETRI, merciumque pretiosarum. 5. Josippæus,  $\frac{2}{3}$  digiti minor cubito nigro. 6. Chorda sive Asaba, brevior cubito nigro  $1\frac{1}{2}$  digiti. 7. Maharanius cubitus  $2\frac{2}{3}$  cubiti nigri, fossis mensurandis Mamone principe imperatûs. Vid. Edw. Bernard. de Mensuris, p. 217.

\* Vid. Edw. Bernard. ut supra, p. 218.

† Vid. Edw. Ber. ut supra, p. 220.

‡ Quilibet cubitus continet viginti octo digitos, donec compleatur elevatio aquæ ad duodecim cubitos. Deinde cubitus fit viginti quatuor digitorum. Quando igitur volunt supponere hanc elevationem pertigisse ad sexdecim cubitos, distribuunt duos cubitos redundantes, qui continent viginti octo digitos, inter duodecim cubitos, quorum unusquisque continet viginti quatuor digitos, sicque fit quilibet cubitus viginti octo cubitorum. Kalk. ex tractat. v. cl. J. Gagnier.

|| See his *Travels* in English, p. 232.



reckons by a peek of twenty-four digits; though, according to a like account of the daily increase, which I had from Signore Gabrieli, a Venetian apothecary, who has resided many years at Kairo, the peek is there expressly of twenty-eight inches\*, or nearly an inch less than that which Dr Bernard† tells us he saw the model of in Marufidas. By the length and division of the Mikeas, according to the account I had of it from a curious‡ gentleman at Kairo, the peek appears to be still different from any of those already described. 'The Mikeas,' says he, 'is a pillar of fifty-eight

\* June 29. N.S. 1714, the Nile was five cubits high. June 30. it increased three inches.

July 1.	2. Inches	July 13.	4. Inches	July 25.	7. Inches
2.	3.	14.	6.	26.	8.
3.	2.	15.	8.	27.	10.
4.	4.	16.	8.	28.	15.
5.	3.	17.	15.	29.	20.
6.	4.	18.	25.	30.	30.
7.	6.	19.	15.	31.	48.
8.	4.	20.	10.	increased in all, (July 31.) $15\frac{2}{3}$ cubits.	
9.	5.	21.	8.		
10.	4.	22.	6.	Aug. 1. <i>Wafaa Allah.</i>	
11.	3.	23.	7.		
12.	5.	24.	8.		

† Potest ex modulo Marufidæ in MS. Arabico Bibliothecæ nostræ cubitus Hasemæus uncias Anglicanas 28, 9. De Mens. p. 219.

‡ This gentleman was the late Mr Thomas Humes, who had been a great many years a factor at Kairo, and took the measures and designs of most of the Egyptian antiquities. I had the following measure of the peek from an Italian merchant residing at Kairo, viz.

The Stambole peek = 6 Rom. palms  $\frac{7}{8}$  = 2,  $\frac{15}{16}$  English feet; with this they measure the woollen.

The Misser peek =  $2\frac{1}{2}$  palms, or  $1\frac{8}{16}$  English feet for linen.

‘ eight English feet high, divided into three geometrical peeks, called Soltani beladi e facesi, i. e. *the standard* (as perhaps we may interpret these words) *of the town and merchants*, in all twenty-four Stambole peeks, i. e. the Stambole peek, according to this account, is equal to twenty-five of our inches; though, in another letter from the same person, sixteen of these peeks are made equal to twelve English yards; whereby one of these peeks will be equal to twenty-seven of our inches.’ My learned friends, Dr Pococke\* and Dr Perry, who have written largely upon this point, have still left it undetermined, or very dubious; the former making the Mikeas to be divided into twenty-four peeks of three different dimensions, viz. the sixteen lowest peeks to be each of twenty-eight digits, or twenty-one inches, the four next of twenty-six digits, and the uppermost of twenty-four; whereas the latter† fixes it to two feet, or twenty-four inches nearly. But as I was informed at Kairo, (for I could not obtain the like admission with those gentlemen into the Mikeas), the Stamboline peek is the measure whereby they compute at present; and as the measure whereby they compute is, according to Mr Mallet’s‡ account, equal to two French

\* Descript. of the East, vol. i, p. 256.

† A View of the Levant, p. 282. 284. 286.

‡ M. Maillet makes the peek by which the Nile is measured, to be equal to two French feet, i. e. to two feet two inches nearly of our measure. -- La mesure dont on se sert au Kaire, pour connoître l’elevation de l’eau, contient vingt quatre pouces, ou deux

French feet; this should be the lesser peak of that name, which is to the greater as 31 is to 32, or as 25-6 inches are to 26-4, the length of the great Stamboline peak \*. Let it suffice then, in the following calculations, and to avoid fractions, to take this measure in round numbers, and at a medium among those above recited, (*viz.* of 26. 27. 25-6. 25. 24. and 21 inches), for one of twenty-five inches only. This will sufficiently illustrate the various reasonings and conjectures which we have to offer concerning the following properties and phenomena of the Nile, and of its effects and influence upon the Land of Egypt.

In the month of December, the channel of the Nile above the Mikeas, where it is broadest, was, at a medium, about three of these cubits in depth; others† make it four or five; and, as far as I could judge by the eye, it was little more than half a mile in breadth; though in other places it is much narrower. But in falling down the branch of Dami-ata, in the same month (and the river might probably be shallower in the three following), we frequently struck upon the ground, in the very middle of the channel, though our vessel drew less than three feet of water. In the middle of June, when the Nile was considerably augmented

deux pieds de roy.--Pour etre capable de couvrir toutes les terres, il faut que l'accroissement du Nil monte jusqu'a vingt quatre Draas, c'est-a-dire quarante huit pieds. Descript. de l'Egypte, p. 60.

\* Vid. Bernardum de Mensuris, p. 200.

† Vid. Pococke, *ut supra*, p. 250. Dr. Perry, *ibid.* p. 278.

augmented, for neither the beginning nor the end of the inundation falls out always at the same time\*, there were few parts of the main channel but we could pass over, by thrusting our boat forward with a pole of eight cubits in length. Each day's increase afterwards, till the middle of July, was two, three or four digits; afterwards it would be sometimes ten, sometimes twenty or thirty, till it rose (Aug. 15. 1721) to sixteen cubits; which (with the artful introduction, no doubt, at some proper juncture, of a larger measure of the same denomination †) seems to have been received for many

\* According to the following account, which was kept by Signore Gabrieli for thirty years, the Nile arrived at the height of sixteen cubits, viz.

A. D. 1692, Aug. 9.	A. D. 1707, Aug. 10.
1693, 7.	1708, 4.
1694, Sept. 1. P.	1709, 9.
1695, Aug. 13.	1710, July 28.
1696, 14.	1711, Aug. 10.
1697, 11.	1712, 6.
1698, 7.	1713, 3. P.
1699, 15.	1714, 1.
1700, 5. P.	1715, July 26.
1701, 17.	1716, Aug. 17.
1702, 15.	1717, 15. P.
1703, 18.	1718, 22. P.
1704, 2.	1719, 5.
1705, Sept. 19. P.	1720, 9.
1706, Aug. 9.	1721, 15.

† The letter P. denotes the plague to have raged that year.

† Something of this kind is probably implied in the following remark of Kalkasendas.—*Observa quod nostro tempore facta est corruptio fluviorum et imminutio status rerum; cujus argumentum est, quod Nilometra antiqua regionis Al Said a primo ad ultimum constanter habuerunt viginti quatuor digitos pro unoquoque cubito sine ulla additione ad hunc numerum.*—The same author (Eutychius does likewise the same in his *Annals*) mentions the changing and pulling down several of these Nilometra; for the more easy introduction perhaps of another measure.

many generations as the standard that portended plenty, and consequently, as the condition whereupon the Egyptians were to pay their annual taxes and tribute.

For no addition appears to have been made, during the space of five hundred years, to the number of cubits that are taken notice of by Herodotus. This we learn, not only from the sixteen children that attend the statue of the Nile\*, above mentioned, but from Pliny† also, and likewise from a medal of Hadrian, in the great brass, where we see the figure of the Nile, with a boy upon it, pointing to the number 16. Yet, in the fourth century, which it will be difficult to account for, fifteen cubits only are recorded by the emperor Julian‡, as the height of the Nile's inundation; whereas, in the middle of the sixth century, in the time of Justinian, Procopius (l. iii. *De rebus Gothicis*) informs us, that the rise of the Nile exceeded eighteen cubits. In the seventh century, after Egypt was subdued by the Saracens, the amount || was sixteen or seventeen cubits; and, at present, notwithstanding the great accumulation of soil that has been unquestionably made since those times, yet, when the river rises to sixteen cubits (though nineteen or twenty are required to prepare the whole land for cultivation) the Egyptians make

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great

\* Vid. note ||, p. 219. Plin. l. xxxvi. c. 7.

† Id. l. v. c. 9.

‡ Julian. Epist. Ecdicio, præfecto Ægypti.

|| Vide Kalkasendas, ut supra.

great rejoicings, and call out, *Wafaa Allah, i. e. God has given them all they wanted.* And it is at this time they perform the ceremony of *cutting the Nile*, which is nothing more than the breaking down the bank of earth that is raised against the river, at the beginning of the increase, and thereby admitting a part of the stream into a *khalis*, or canal, which runs through the city of Kairo.

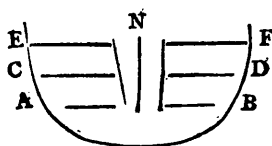
This *khalis*, which was the *amnis Trajanus* of the ancients, empties itself into the *Berque el Hadge*, or *lake of the pilgrims*, at twelve miles distance to the eastward, and was formerly continued to *Heroopolis*, upon the banks of the Red Sea. The lake of *Myris*\*, the *Mareotis*, and others of the same kind, seem to have been the like contrivances of the ancient Egyptians, either to divert, or to carry off the superfluity of water, which, in the earlier ages, when there was a less extent and height of soil, must have frequently broke down their mounds; and would have always been more than sufficient to prepare the land for cultivation.

Now as the change of seasons, and the natural course of things, has been always the same since the deluge, the Nile, from the settled state of things after that period of time to this, must have constantly discharged the same quantity of water into the sea. But the country which it overflows, being not only nourished and refresh-  
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\* Diod. Sic. l. i. p. 32, 33.

ed by the river, but even, as Herodotus says \*, its very gift, a great variety of changes and alterations must have been all along incident to it. Whilst therefore the lower part of Egypt, where we now find the Delta †, may be supposed to have been a large gulf of the sea, the upper is to be considered as a valley, bounded on each side with mountains.

Let the annexed figure be a section of this valley,



with a Nilescope N placed in that part of it where the Nile directed its stream. For about the space therefore of one or two centuries after the deluge, or till such time as the mud, brought down by the inundation, was sufficiently fixed and accumulated to confine the river, we may imagine the bottom of this valley; A B, (*i. e.* the whole land of Egypt) to have been entirely overflowed; or else, being in the nature of a morass, was not fit to be either cultivated or inhabited. Egypt therefore, at this time, was in a proper condition to receive the assistance of Osiris ‡, who, by raising mounds, and collecting the water into a proper channel, kept the river from stagnating, and forming itself into pools and marshes, and thereby prepared the land for that culture and tillage which he is supposed to have invented. But, in process of time, the annual  
strata

\* Herod. Eut. § 4, 5. Diod. Sic. l. iii. p. 101. Arist. Meteorol. l. i. c. 14.

† Plin. Hist. Nat. l. ii. c. 85. ‡ Diod. Sic. l. i. p. 12.

strata would raise the country as high as c d ; whereby the Nile would not only be sufficiently confined within its own banks, but the superfluous moisture also, that was left by the inundation, would be easily drained off, either into the bed of the river, into the lake of Myris, or other lakes of the same nature and design. Agriculture therefore and husbandry, would have now their proper encouragements ; and in this condition we may conceive the country to have been, at the building of Thebes \* ; the parts where Memphis and Zoan were afterwards founded, having not yet obtained a sufficient depth of soil to bring down a colony to till it. Some centuries after, when Memphis and other cities of the Lower Egypt were built, the banks, together with the land on each side of them, might have been raised, as we will suppose, as high as e f, whereby a still greater height of water would be required to refresh them ; which, in the time of Herodotus, was sixteen cubits. And in this manner, it may be presumed, that the foundation of the Land of Egypt was first laid; and afterwards augmented ; the inundation bringing annually along with it an addition of soil, whereby not only the land that was made already, would be raised and augmented, but the soil would be likewise spread and extended to the very skirts of the valley, the sea would be gradually excluded, and consequently a foundation laid for new acquisitions

\* Arist. Meteorol. l. i. c. 14.



acquisitions to the country. Something like this we have recorded in Abmasudi, as he is quoted by Macrizi. ‘It is the opinion,’ says he, ‘of philosophers and naturalists, (alluding to Arist. Meteorol. l. i. c. 14.) that the Nile once covered its country, and that it spread itself from the Upper Egypt (*i. e.* Said or Thebais) to the Lower. And that, upon the waters retiring, some places of it began to be inhabited; till at length, the water continuing to flow off by little and little, the land was filled with cities and dwellings.’

That Egypt was raised and augmented in this manner, appears from several circumstances. For whereas the soil of other plain and level countries is usually of the same depth, we find it here to vary in proportion to the distance of it from the river; being sometimes, near the banks, more than thirty feet high, whilst, at the utmost extremity of the inundation, it is not a quarter part of so many inches. The method of raising mounds\*, in order to secure these cities from the violence of the inundation, is another argument. For as it may be presumed, that all the cities of Egypt were originally built upon artificial eminences†, raised for that purpose, so, when the circumjacent soil came to be so far increased, as to lie nearly upon a level with them, the inhabitants must have been obliged either to mound them round, or else to rebuild them. The former experiment

\* Herod. Euterp. § 137. Diod. Sic. l. i. p. 36. 41.

† Diod. Sic. p. 23. Strab. Geogr. l. xvii. § 3.

experiment seems to have been often repeated at Memphis; as the want thereof may have been the reason why we are not sure at present even of the place where this famous city was founded. The situation likewise of the temple, in the city of Bubastis, is another circumstance in favour of this hypothesis. For when Bubastis was rebuilt, and raised higher, to secure it from the inundation, the temple\*, for the beauty of it†, was left standing in its primitive situation; and being therefore much lower than the new buildings, the inhabitants are said to have *looked down upon it* from every part of the city. In like manner Heliopolis, which Strabo tells us was built upon an eminence‡, is now one of the plains of Egypt, and annually overflowed, as I myself have seen, with six or eight feet of water: Neither is there any descent as formerly from Babylon (*viz.* those parts of it that were built under the castle) to the river||, but the interjacent space is all of it upon a level. Upon the skirts likewise of the inundation, near the pyramids, where the sphinx is erected, which may be the model for other places, the soil, exclusive of the sand I have mentioned, is there so far accumulated, that very little is wanting to cover the whole body. With regard also to the exclusion of the sea (the expelling

\* Herod. Eut. § 138.

† Id. *ibid.*

‡ Strab. Geogr. l. xvii. p. 553.

|| 'Ραχμς δ' εστιν απο τε τρατοπιδς [Babylonis] και μαχρς Νειλς καθυκατα, δι ης απο τε ποταμς τρεχαι και κοχλιδαι το ιδις αιωγυσθ. Id. *ibid.* p. 555.

PELLING of Typhon, as it was named in their ancient mythology), we are told that Dami-ata, which lies now at several miles distance from the sea, was, in the time of St Lewis, *viz.* A. D. 1243, a sea port town, or at a mile's distance only from the sea\*; that Fooah, which three hundred years ago was at the mouth of the Canopic branch of the river, is now more than seven miles above it; and again, that the land betwixt Rozetto and the sea, has, in no longer space than forty years, gained half a league. Such large accessions being continually made to the soil, would occasion several of the more ancient cities, such as Mansoura, Dami-ata and Tineh, (for the present Kairo, or Babylon, or Latopolis, as it was anciently called, is built in a higher situation, out of the reach of the Nile's inundation), to be in the same condition with Memphis, were they not, in a great measure, secured by some neighbouring mounds†; and was not the stream itself at the same time diminished, by being conducted in so convenient a manner, through a number of channels, that every part of the country may receive the benefit of the inundation.

However,

\* Vid. Description de l' Egypte, par M. de Maillet, p. 96, &c. The situation of Damiata upon the sea coast, A. D. 1243, seems to be confirmed by Abdollaliph, (p. 5.) who lived about that time. Damiatæ latitudo, quæ est ultimus Ægypti terminus, est graduum triginta unius et tertie partis gradus. Willerm of Tyre, A. D. 1169, tells us, that Damiata a mari quasi milliaris distabat.

† It was by pulling down such mounds as these, by Sultan Melladine, that the Christian army, then encamped near Kairo, were drowned, A. D. 1199.

However, it will be difficult to determine, with any exactness, what quantity of mud is thus annually left by the Nile. A late author\* makes it equal to a tenth part of the water; a weight certainly too great to be buoyed up by the stream. According to the quantity of sediment that is precipitated in their water-jars, by rubbing the sides of them with bitter almonds, the proportion seemed to be scarce one thirtieth part, or about one quart of wet mud to eight gallons of water. But by putting some of the same water to settle in the tube of a barometer, thirty-two inches long, I found the mud, when perfectly dry, to be nearly  $\frac{1}{10}$  part †. And, as in most places that are overflowed, the water must either entirely stagnate, or continue at least without any considerable motion, (inasmuch as it is usually admitted by sluices, and kept in on every side by banks made for the purpose), it is probable that a proportionable

\* La vitesse de cet accroissement est aisee a comprendre, lorsqu'on se represente, que les eaux du Nil sont si troublees et si bourbeuses dans le tems de l'augmentation de ce fleuve, que les boues et les sables sont au moins la dixieme partie de son volume. Description de l'Egypte, par M. Maillet, p. 103.

† Dr Perry disagrees with me in this, as being by far too great a proportion, which he makes to be only  $\frac{1}{875}$  part; or five drams and fifteen grains of soil, to thirty pound weight of water, either evaporated or filtrated. *View of the Levant*, p. 288. There will undoubtedly be great difference in the muddiness and quality of the water, according as it is taken up in the middle of the channel, or near the banks, where it is often disturbed, as the water usually is, that is brought all the day long from Bulac, upon camels, to Kairo. I know no other way to account for this difference; for that a much greater quantity than this must be left by the Nile, will appear from the next paragraph, and the following chapter.

portionable quantity of soil (the depth of the water being always regarded) may have been left upon the surface. But I am sensible, that trials and experiments of this kind ought to be carefully examined and repeated, before any hypothesis is built upon them. I therefore dare propose it only as a conjecture, that, according to the computation of time by the vulgar æra \*, this accession of soil, since the deluge, must have been in a proportion of somewhat more than a foot in a hundred years.

This, though we cannot absolutely prove it, appears highly probable, by comparing only the present state and condition of Egypt with what it was two or three thousand years ago. For Herodotus † acquaints us, that in the reign of Myris, if the Nile rose to the height of eight Grecian cubits, all the land of Egypt was sufficiently watered; but that in his time, which was not quite nine hundred years after Myris, the country required fifteen or sixteen. The addition of soil therefore (by supposing them to have been fifteen cubits only) will be seven Grecian cubits, or an hundred and twenty-six inches, in the space of nine hundred years. But at present, the river must rise to the height of twenty Stamboline cubits (and it usually rises from twenty-two to twenty-four) before the whole country is overflowed. Kalkasendas, in his treatise of the Nile, acquaints us, ‘ that the Nile, from *an. Hej.* 13,

\* *Viz.* by following the Hebrew text.

† Herod. Eut. § 13.

‘ to *an. Hej.* 700, had risen *gradually* from fourteen, to sixteen or seventeen cubits.’ He adds further : ‘ As for our time, (*viz. an. Hej.* 806 ; *i. e.* A. D. 1403) the soil is raised by the falling of the mud that is brought down with the water ; and the bridges’ (such, we may imagine, as were formerly built over the canals, when the Nile did not rise so high) ‘ are broken down, or covered,’ (as we may again imagine, by the augmented impetuosity or height of the stream) ; ‘ and the Nile, by the appointment of the most high God, is reduced to these three states : the insufficient, which is sixteen cubits more or less ; the middle, which is from seventeen to eighteen cubits or thereabouts ; and the high, which is when it exceeds eighteen cubits ; and sometimes it will rise to twenty.’ Since the time therefore of Herodotus, by making twenty cubits only the standard, Egypt has gained two hundred and thirty inches of soil. And again, if we look back from the reign of Myris to the time of the deluge, and reckon that interval by the same proportion, we shall find the whole perpendicular accession of soil, from the deluge to A. D. 1721, to be five hundred inches. The land of Egypt therefore, agreeably to the æra and conjecture above, and reckoning by a cubit of twenty-five inches only, has gained forty-one feet eight inches of soil in 4072 years \*. Thus, in process of time, the whole country may be raised to such a height, that

\* *Viz.* by reckoning according to Mr Bedford’s Tables, from the Deluge to A. D. 1721, the year when I was in Egypt.

that the river will not be able to overflow it; and Egypt consequently, from being the most fertile, will, for want of this annual inundation, become one of the most barren parts of the universe\*. The objections that have been made to this hypothesis will be hereafter considered.

However, among the many doubts and difficulties that have been already mentioned, or may be hereafter raised upon this subject, there will always be room to make this very just and important observation, that if Herodotus had duly considered the annual increase of the soil, and carried back his remarks a thousand years beyond the time of Myris, he could not have given the least credit to that long succession of dynasties†, which make up the Egyptian history. For since, according to his own reflections, Egypt is the entire, though gradual gift of the Nile, there must have been a time (and that not long before the period last mentioned) when it was either of the same barren nature with the deserts that surround it, or else that it must have been quite covered with water; consequently, there could have been no habitable country for these pretended princes  
to

\* Macrizi, in his account of the Nile, has this observation; viz. 'If Egypt,' says he, 'should not receive a sufficient quantity of moisture from the gradual increase and rising of the Nile, and the water retire from it afterwards, by the beginning of seed-time; the country would be entirely ruined, and the inhabitants would perish with hunger.'

† Herod. Eut. § 43. & 145. The like account we have in Diodorus, l. i. p. 13. & 15. & p. 28. At the same time he acknowledges, that the Egyptians boast of astronomical observations (ἐξ ἱστορίας, p. 51.) from an incredible number of years.

to have reigned over. Our historian himself supposes it to have been originally an arm of the sea; and the time, pretty nearly, when it was so, he had learnt from the Egyptians, who assured him, that Menes\* was the first king who reigned in the world; that in his time, all Egypt, except the country of Thebes, was one continued morass; and that below the Lake of Myris, no part of the present land appeared. Now, as Menes or Osiris† was the same with Mizraim, the son of Cham‡, the first planter of Egypt, as all the foregoing circumstances so well agree with the Mosaic account of the flood, and of the dispersion of mankind after it, Herodotus does hereby confirm the very truth and certainty of the Scripture chronology, and at the same time overthrows the authority of all those extravagant annals and antiquities that were so much boasted of by the Egyptians ||.

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\* Herod. Eut. § 11.

† Vid. Shuckford Connect. vol. i. p. 205. ‡ Gen. x. 6.

|| Herodotus, always too credulous with regard to these boasted antiquities of the Egyptians, insists likewise that *circumcision* was much earlier received by them, than by the Syrians of Palestine, *i. e.* the Hebrews, or Israelites; for the Philistines themselves, who were originally Egyptians, and gave name to the country, were uncircumcised. Now, by considering Gen. xlv. 12. in the original text, agreeably to the Hebrew diction and brevity of expression, we may receive one plausible argument, why Herodotus may be equally mistaken in this assertion. For the rabbinical commentators observe upon this verse, (which we translate, *And behold your eyes see, and the eyes of my brother Benjamin, that it is my mouth that speaketh unto you*), that Joseph gave the patriarchs therein three proofs of his being their brother. The first was the token of *circumcision*, peculiar at that time (as they affirm) to the family of Abraham, which he is supposed



## SECTION IV.

*Some additional Proofs and Conjectures concerning the Augmentation which Egypt receives annually from the Nile.*

THOUGH it seems to be fairly proved and collected, as well from the foregoing section, as from the quotations which finish the dissertation concerning

supposed to have discovered, by unfolding his garment whilst they stood *near him*, and bidding them regard it. *Behold*, says he, *your eyes see*, by this token, that I am no stranger, but of the lineage of Abraham. And then, to shew that he was not descended from Ishmael, he lays down for his second proof, the near resemblance of *his own features to those of his brother Benjamin*, who was born of the same mother. *And behold*, continues he, *the eyes* (or countenance) *of my brother Benjamin*, how nearly they resemble my own. The third proof was his language; *Moreover*, he adds, *it is my mouth that speaketh unto you*. For he had now begun to talk with them in their own tongue, having hitherto conversed with them *in the strange language he had learnt* by an interpreter. We may add some further light and authority to this exposition, by the following observations; *viz.* first, that notwithstanding he had already told them *he was Joseph*, (ver. 3.) yet this must undoubtedly have appeared to Reuben, in particular, to have been altogether impossible; in as much as he had all along understood, that Joseph had been devoured by wild beasts. It must seem no less improbable to the rest. For as they were too conscious of their having sold him to the Ishmaelites, who were generally employed in the exchange of merchandise from one distant place to another, they could not entertain the least imagination of his being the second person in Egypt; or even that he should be a settled inhabitant of that kingdom. Besides all this, the Egyptian dress, and fifteen years difference in his age since his brethren saw him, when he was then a youth only, would occasion such an alteration in his person as might well demand, in the present surprize they were in, some further proof than this bare declaration, that he was Joseph. *Secondly*, His appealing, after he had addressed himself to them all, to the single testimony of Benjamin, how superior a token soever it may

concerning the ancient situation of Memphis, that Egypt in general, no less than that city in particular, must have suffered great alterations, and received considerable augmentations from the Nile; yet the arguments and matters of fact there urged and alleged, do not appear to have been sufficiently clear and evident to the learned author of *The Description of the East*. And as a proper regard ought to be paid to the sentiments and observations of a curious gentleman, who has been upon the spot, and who has said every thing, I presume, that can be urged against my hypothesis, a candid and impartial examination of his reasonings and objections thereupon, may possibly clear up the present difficulties, and consequently

may be interpreted, of Joseph's peculiar regard and affection for Benjamin, yet it could not in this light, and upon this occasion, be of the least moment or consequence; nay, it seems rather to have been altogether incongruous and absurd. For Benjamin was only a child when Joseph was sold into Egypt; consequently it would have been improper to have called upon him as an evidence, who could not be capable, at such an age, of retaining the least notion or remembrance of Joseph's person. *Thirdly*, Joseph's *causing every man to go out*, (ver. 1.) and *praying his brethren to come near him*, (ver. 4.) should insinuate, that he had something to impart to them of secrecy and importance, which was not to be exposed to the ridicule, or wanton curiosity of the uncircumcised Egyptians. Otherwise there appears to be nothing in this whole narration, which is told with so much elegance and simplicity, that could in any manner offend, or which indeed would not rather have excited the greatest pleasure and satisfaction in the Egyptians. For we learn, (ver. 16.) that *as soon as it was known that Joseph's brethren were come, is pleased Pharaoh well, and all his servants*.

It seems to be implied also, Jer. ix. 25, 26. that the Egyptians were not circumcised at the time when that prophet lived, viz. 630 or 640 years before Christ, which was not 200 years before Herodotus flourished and wrote his history.

sequently put an end to all disputes upon this subject for the future. Now it is allowed by this author, (vol. i. p. 39.) that ‘ the Nile, by overflowing of Memphis, might bury or cover it over ‘ with mud, as if such a place had never been.’ And that the mud of the Nile is capable of bringing about such or greater revolutions, appears from the depth of five feet, which he tells us (p. 200.) ‘ is left behind it every year in the Mi- ‘ keas.’ Nay, the quantity of mud brought down by the Nile, appeared to be so very extraordinary to Herodotus\*, that he supposes the Red Sea, provided the Nile was turned into it, would, in the space of twenty thousand years, be filled up by it.

Now, if the Nile has the property of lodging its sediment in one place, why may it not have the like property of lodging it in others? And if the Nile has accumulated soil at one time, why not successively, even to this day? And though the soil annually lodged upon the surface in these latter ages, may, from smaller depths of the stagnating water, be gradually diminished, yet still, where the Nile is admitted, and of a sufficient height to overflow, there will always be some proportional sediment left behind, and consequently the land must be always increasing. When therefore the Nile, by thus raising and augmenting its banks, (*i. e.* the whole tract of land

\* Εἰ πὺν δὲ ἐβίλησεν ἐκτρέψαι τὸ ῥέμαρ ὁ Νεῖλος εἰς τὸν τοῦ Ἀραβίων κάλπον, τί μιν κάλυμν ῥέματος τὴν χωρὴν αὐτοῦ γὰρ διαμυρίων ἔτειν ; Herod. p. 104.

land which it overflows), is at length confined and collected within its own channel, and thereby becomes incapable of preparing the adjacent plains for tillage, by overflowing them, the event and consequence seems to be very apparent; that, for want of this annual inundation, (as there are no former and latter rains, as in other countries), Egypt, from being the most fertile, by being overflowed, must, as I have asserted, become the most barren part of the universe for want of it. I do not indeed say that this will happen in our times; I was only to shew the possibility of it in some future generations.

Yet, notwithstanding it is granted in several places by this gentleman \*, that considerable additions

\* ' There are some grounds to think, that the soil of Egypt has risen some years near half an inch, without considering what is carried away of the produce of the earth. For on the banks of the Nile, I observed that the soil was in several strata, or cakes, of about that thickness.' *Descript. of the East*, p. 250. ' Nothing certain can be said as to the rise of the soil; for these banks being high, possibly their strata of earth might be made only at the time of such inundations: [they could be made at no other] as overflowed those banks, where we are to suppose [but for what reason?] the sediment must have been greater than in the ordinary overflow. It is possible also, that this might not be the sediment of one year.' p. 251. ' The ground rising proportionably at the sea and every where else.' p. 198. ' The soil of Egypt, except what additions it has received from the overflow of the Nile, is naturally sandy.' p. 197. ' It is salt, or nitre, and the rich quality of the earth, which is the sediment of the water of the Nile, that makes Egypt so fertile.' *ibid.* ' A cubit more of water might be necessary to overflow the lands plentifully before Petronius's time, than what was in Herodotus's, the earth being risen, and the canals made.' p. 252. ' The ground has risen seven feet and an half at Heliopolis.' p. 25. ' The ground is so much risen, that I could not come to any certainty with regard to the height of their pillars.' p. 215. ' The

ditions have been and are still making to the soil, yet it is urged, (p. 250. *ibid.*) that ‘ by the ‘ perpetual falling of the stony particles, brought ‘ down with the Nile, the channel itself rises in ‘ proportion to its banks.’ And besides (*ibid.*) that ‘ great quantities of soil are actually wasted ‘ or carried away by the crop;’ and still (p. 198.) ‘ provided the lands did rise so high in Lower ‘ Egypt as not to be overflowed, they would only ‘ be in the same condition with the people of ‘ Upper Egypt, who are obliged to raise the ‘ water by art.’ These are the principal objections which are advanced against this part of my hypothesis.

Now, with regard to the last objection, it may be observed of Egypt, as well as of all other countries, that where they are not, in some way or other, watered and refreshed, they must of course be barren, and incapable of producing any crop. This we have confirmed by Strabo\*, who, in describing the course of the Nile from Ethiopia to Egypt, tells us, ‘ that all those parts were ‘ inhabited which were overflowed by the Nile; ‘ but where the lands were *too high*, or *lay out of*

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‘ The pillars of Hadjar Silcili [which is built on a rock, and ‘ therefore without the reach of the Nile] are the only columns ‘ I saw to the bottom.’ p. 217.

\* Κοίνα μιν γὰρ τίνα καὶ ταύτη τῇ χώρᾳ καὶ τῇ συνέχει καὶ ὑπὲρ αὐτὴν τῇ τῶν Αἰθιοπῶν ὁ Νεῖλος παρασκευάζει, ποτίζων τε αὐτὰς κατὰ τὰς αἰσθησεις, καὶ τὰτ’ οἰκησῆσαι αὐτῶ τὸ μέρος ἀπολιπὼν μόνον τὸ καλυπτομένο ἐν τοῖς πλημμυρίσι, τὸ δ’ ὑπερδιξίον καὶ μεταρροτίζον τῷ ῥυματός παν. αἰκίητον ἐκατέρωθεν διέξιν καὶ ἱερῶν δια τῇ αὐτῇ ἀνυδρίᾳ. Strab. Geogr. l. xvii. p. 541. *Can the meadow (ἰοῖν) grow without water?* Job viii. 11.

'the reach of the inundation, there they were 'barren and uninhabited for want of water.' Neither am I speaking of what may be done by artificial means and contrivances, such as Strabo\* may be supposed to describe in the time of Petronius; such likewise as are at present made use of in the Upper Egypt. I am speaking of the consequences, which, without these assistances, must naturally attend a country that is destitute of all manner of refreshment from showers or inundations; such as this author acknowledges the Upper Egypt to be at this time. For it is a matter of fact, that the greatest part of the Upper Egypt, by lying too high to be regularly overflowed by the Nile, is able to produce little or nothing at all for the sustenance of mankind; except such portions of it, as are kept constantly watered, as he himself has observed, by the immense labour and contrivance of the inhabitants.

As then it is agreed by us both†, that all Egypt is, or has been, at one time or other, the gradual gift

\* Ἡ δὲ περὶ τοῦ ποταμοῦ πραγματεία διαφέρει τοῦτον, ὅσον τῇ ἐπιμέλειᾳ νικᾷ τὴν φύσιν. Φύσιν γὰρ πλοῖονα φέρει καρπὸν, καὶ ποτισθῆσα πολλῶν. Φύσιν δὲ καὶ ἡ μίζαν ἀναβάσις τῷ ποταμῷ πληρῶς ποτίζει γῆν, ἀλλ' ἡ ἐπιμέλεια πολλὰς, καὶ τῆς φύσεως ἐξισχυρὴν ἐπιλαμπύσκει, ὥς τε καὶ κατὰ τὰς ἐλαττέρας ἀναβάσεις τὸ αὐτὴν ποτίζειν γῆν, ὅσον ἐν τοῖς μίξοσι, διὰ τε [τῇ] τῶν διορυγῶν, καὶ τῶν παραχωμάτων. Ἐπὶ γὰρ τῶν πρὸ Πέτρωνιου χρόνων ἡ μίγισθαι μὲν ἢ φορὰ καὶ ἀναβάσις, ἥνικα ἐπὶ τισσάρει καὶ δὲ πῆχυν ἀνέβαινε ὁ Νεῖλος ἥνικα δ' ἐπ' ὀκτὼ συνέβαινε λίμος. Ἐπ' ἐκεῖναι δὲ ἀρξάντος τῆς χώρας, καὶ δώδεκα μόνον πληρωσάντος πῆχυν τῷ Νεῖλῳ μετρεῖ, μίγισθαι ἢ ἢ φορὰ καὶ ὀκτὼ ποτὶ μόνον πληρωσάντος, λίμην αὖτε ποτὶ. Strab. l. xvii. p. 542.

† See the quotations from this author, p. 240-1.

gift of the Nile, this hypothesis which I maintain, supposes no other change and alteration to happen, in process of time, to the plains about Memphis and the Lower Egypt, than what have already happened to the Upper \*; agreeably to its higher antiquity, and to the longer course of ages, that the Nile has been bestowing its bounty upon it. The present state and condition therefore of the Upper Egypt, is so far from being an objection, that it proves the very point in dispute; viz. that the Nile, in a term of years, may so far accumulate its soil upon the adjacent plains of the Lower Egypt, as it hath already done in the Upper, that it will not be capable to overflow them.

As to the other objections, we may even dispute the very facts upon which they are founded. For, as to the first, it can hardly be admitted that any of the original stony particles, brought down from Ethiopia by the Nile, should be so strongly buoyed up by the stream, as not to subside a long time before their arrival at the Cataracts. Neither could any further accession of stony particles, that should be engaged afterwards by the stream, either in passing by these Cataracts, or the sandy islands that lie in its course afterwards, continue long to be supported, let the stream be  
never

\* This is even acknowledged by the author of the *Description of the East*. 'At that time,' says he, 'before the canals were made, and when Lower Egypt was a morass, the upper parts of Egypt might be overflowed, and receive that accession of a rich soil, which makes it so fruitful,' vol. i. p. 197.

never so rapid and violent. They, from their own weight and specific gravity, must either be dropped of course as soon as the extraordinary rapidity of the current ceases, or else they must be lodged immediately at the very foot of those very rocks, or along the skirts of those very islands, from whence they may be supposed to have been thus violently rubbed off and obtained.

Nay, it may well be imagined, that the beds of rivers, particularly those which, like the Nile, are of a rapid nature, do rather grow lower than rise or increase. For their bottoms being constantly disturbed, by the violent motion and friction of the current, one particle of sand or gravel must impel another, till the velocity of the stream abates, or till these particles meet with some impediment or obstruction. And this may be the cause why rivers are generally the deepest in their middle channel, because the current is there the strongest. It may be the cause likewise, why eddies, whirlpools, the immediate outlets from mills, sluices, &c. are usually of great depths; because the stream, in these cases, plunges itself here with greater violence, and putting thereby the neighbouring particles of sand and gravel in motion, protrudes them before it. It is owing also to the same impulsive force and action, that the ordinary depths of rivers are deeper in some places than in others, the deeper being usually succeeded by flats and shallows, whither these loose sandy particles are driven; and where they  
remain



remain quiet and undisturbed; till the next inundation.

Of the same nature and origin likewise are the bars, as they are called, of rivers; which are a like collection of sand and gravel, forced down by the impetuosity of the stream, till, upon their nearer approach to the sea, they become themselves retarded, and the more weighty contents of them stopped and arrested, by the heavier column of the sea-water, or by the more violent and superior force and activity of its waves. As the mouths of the Nile therefore, and particularly the Canopic, which is the largest, are remarkably incommoded with banks of this kind, which render the navigation oftentimes exceedingly dangerous, there is no small probability, that the bed of the Nile must be so far from receiving any annual increase, as it is objected, from these stony particles, that it must be a considerable loser, by such large contributions of them as are constantly accumulated at those places. As to the mud, properly so called, it seems to make little or no part of these obstructions; for, being itself of a light nature, and easily buoyed up by the stream, it is visibly carried off into the sea, to the distance of several leagues, where it is laying a foundation for future accessions to the land of Egypt.

Besides, if the bed of the Nile was raised by the subsiding of the stony particles brought along with the stream, the like would happen to all rivers, in proportion to their muddiness. Because

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it may be presumed, that the mud buoyed up by rivers, is all of the same light nature and consistence, however it may accidentally differ in colour or other respects. As then there are few or no rivers, but what are muddy in some degree or other; and not only so, but are at some seasons, for several days or weeks together, no less muddy than the Nile; why should not they, by precipitating the stony particles (provided there were any) of their mud, have the like property of raising their beds and channels? We need not indeed insist upon their receiving equal augmentations with the bed of the Nile; it is enough in the present question if they receive any at all, in as much as this, let it have been annually never so small and inconsiderable, yet, in process of time, and in the course of four thousand years, (reckoning from the deluge, or the beginning of rivers), must have become visible and apparent. But notwithstanding the want of that annual increase and addition to their banks, which the Nile can boast of, (and whereby it keeps up, as is pretended, the balance betwixt the quantity of water and the capacity of the channel that is to convey it), nothing of this kind has been observed in the Danube, the Rhine, the Thames, or any other noted river. These have always continued the same; their channels still contain the same quantity of water, which they may originally be supposed to have done, and except upon extraordinary rains, and the floods and inundations consequent thereupon, are never known to be

be too full or overcharged. Whereas, had there been any gradual additions made by these means to their beds, these very beds must have been gradually filled up, and their streams consequently would have been gradually excluded; and being thus excluded, and thereby under no confinement, they would long ago have converted all their adjacent plains into lakes or marshes.

But it is further urged, that, provided the Nile should lodge any considerable quantity of sediment upon the surface, yet 'a great part of it' would be carried off annually by the crop or 'produce of the soil.' Yet, it may be replied, that if the whole of it is not carried off, that which remains will still contribute, though in a smaller degree, to the supposed augmentation. By this means indeed the operation will be slower, though no less sure and certain upon that account. For the precise time when this augmentation is to be brought about, is not disputed; but whether such an augmentation will happen at all. And that there is and has been an augmentation, which consequently may, and probably will continue, is even acknowledged by this author, as well as proved in the foregoing chapter\*. Little stress therefore can be laid upon this objection, which does not deny the fact, but only retards the progress of it.

It appears, by several experiments †, that earth, commonly so called, or mould, is very little concerned

\* Not. \*, p. 240-1.

† Vid. *Boyle's Works* abridged, vol. iii. p. 282, &c.

cerned in vegetation, water being the principal, and in effect the only agent; a certain genial and proper warmth being still supposed to accompany it. For, that water alone may be sufficient for this purpose appears from hence, that ‘ from it, salt\*, spirit, earth, and even oil, may be produced.’ And again †, ‘ fair water may, by the seminal principle of mint, pompions, and other vegetables, be converted into bodies answerable to their seeds.’ And again ‡, ‘ in plants of the various corpuscles found in the liquors of the earth, and agitated by the heat of the sun and air, those that happen to be commensurate to the pores of the root, are impelled into it, or imbibed by it, and thence conveyed to other parts of the tree, in form of sap, which passing through new strainers, receives the alterations requisite to their conversion into wood, bark, leaves, blossoms, fruit, &c.’ By this account, the greatest tree wastes no more of the earth or soil wherein it grows, than the smallest thistle; the earth serving all along as a proper support, defence, or covering only for the root; or else, as a convenient strainer and corrector of the nutritive and vegetative fluid.

Nay, upon a supposition that some vegetative  
particles

\* Boyle’s Works abridged, vol. iii. p. 287. 293.

† Id. *ibid.* p. 340.

‡ Id. vol. i. p. 440. Vid. *Philosoph. Transact.* vol. xxvii. p. 418. where bulbs are said not to grow so well in muddy water as in clear. The known experiment of raising sallads, &c. upon flannel, &c. shews how little concern earth has to do in vegetation.

particles were lodged in this sediment, (and we will suppose a great many), yet how infinitely small must they be, to enter into these roots, and to be conveyed through these delicate strainers? They, of what subtile substance soever they may consist, are rather the objects of our reasoning faculties, than of the eye or the touch; and consequently, what loss or consumption soever may be made of them, it will scarce, if at all be perceived in that great mass of matter from whence they were secreted.

‘But we see,’ as these objections are continued, (p. 251.) that ‘the ground visibly sinks ‘where vegetables are produced and taken away, ‘and there is no accession of matter.’ It must indeed be acknowledged, that every plant plucked up by the root, and every tree dug out of the ground, will leave some cavities and traces behind them; but we must, at the same time, deny the consequence that is here drawn from these appearances. For these holes and cavities, whether they be small or great, are not made by a proportionable quantity of earth or soil, or vegetative matter (if that will make more for the purpose), which may have been gradually taken up and consumed by these plants. They are made by the gradual accretion and expansion of their roots, which, like so many wedges, force themselves into the adjacent soil, loam or gravel; obliging it thereby to quit its native situation, and, from lying naturally in a more loose and open texture, to become more close and com-

pressed. No earth consequently can be lost or consumed by this expansion of their roots; it becomes only, by these means, more crowded and compact.

Nay, so far is it from being a matter of fact, that 'the ground visibly sinks where vegetables grow, without some new accession of matter' be made to it, that the contrary, I presume, will be found by observation; and for one instance where it takes place, (which if there should, may perhaps be easily accounted for some other way), there are numbers of others where the ground is either higher, or at least upon a level with what lies contiguous to it.

In the produce of the lesser kind of vegetables, such as grass and corn, no less than of the greater, such as shrubs and trees, the ground has probably continued much in the same height wherein it was left a little after the deluge. Or rather, from the rotting and corrupting of the roots, stalks leaves, &c. it may, in some places, be a little raised and augmented; in so much, that the very curious and learned Rudbeckius\*, from the consideration of these and such like occasional accessions of soil, has attempted to estimate the age and antiquity of this terraqueous globe. Where the ground is manured, there it must still rise higher than by this natural process; because the more subtle and volatile particles of it can at most be concerned in vegetation, while

\* Ol. Rudbeckii *Atlantica sive Manheim*, l. i. c. 6. *Nouvelles de la repub. des lettres*, mois de Janv. 1685.

while the infinitely greater share of grosser particles are left behind.

And that very little, or nothing at all of the real soil, the ancient and primogenial covering of this globe, is carried off by plants and vegetables, appears from comparing the present state of the plains of Africa, with what they were in former ages. For these are never manured; yet the same fertility in the soil, and the like plenty and abundance that have been recorded of their crops, for above these two thousand years, continue to this day. Now, if the nature of vegetables was such as to make the ground they grow upon 'both 'hollower and lower, by gradually wasting and 'consuming it,' Africa by this time would have been drained of its whole stock, and nothing could have remained of this rich and fruitful country, but a barren *substratum* of clay or gravel.

Having therefore removed the force of these objections, I shall proceed to the examination of others. Now, one of the principal arguments which I have advanced for that annual increase which is supposed to have been made to the Land of Egypt, was taken from Herodotus, who tells us, (Eut. p. 105.) that, 'in the time of Myris; 'eight cubits *at least* (τὸ εὐλαχιστὸν) were required to 'water the country; but, in his time, scarce nine 'hundred years afterwards, [sixteen or] fifteen *at least* (εὐλαχιστὸν) were necessary.' The land therefore, as I conjecture, must have received seven Grecian cubits of increase, in that space of time.

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The whole scope of Herodotus' reasoning, both in this and in other places of the *Euterpe*, is to this purpose; not only to shew the actual and the general increase, but even, in some measure, the very proportion and quantity of this annual increase. And of this, the matters of fact related above, are, as he calls them, *μὴν τεκμηρίον περὶ τῆς χώρας*, 'a strong proof or evidence with regard to this country.' For if he had not preserved all along a great regard to this gradual increase, which was the very foundation of what he was contending for—that Egypt was the gift of the Nile, he never could, from such a long detail and induction of particulars as are there enumerated, have at length concluded that Egypt, by 'being raised, *in this manner*, too high to be overflowed, and no rain falling upon it, the inhabitants must starve and perish with hunger.'

But it is further objected, (p. 251.) that 'the eight cubits [above mentioned], are to be understood of the addition only that is to be made to the Nile, at the time of its overflow; but that the sixteen or fifteen cubits are to be taken for the whole depth of the river, from the top to the bottom.' Whereas, Herodotus' words will bear no such interpretation. Because, in the first part of the above-cited quotation, it is *ὅπως ἔλθῃ ὁ ποταμὸς ἐπὶ ὀκτὼ πηχύας τὸ εὐλαχίστον*, *when the river arises, or comes, to eight cubits at least*; and, in the latter, *οἱ μὴ ἐπ' ἑκαταίδεκα ἢ πεντακαίδεκα πηχίας ἀναβῇ τελευτήσων ὁ ποταμὸς*, *unless the river ascends to sixteen or fifteen cubits at least*; where the same meaning is conveyed



veyed in them both; ποταμος ἅλθαι and ποταμος ἀναβῆ meaning, one and the other, the whole and the absolute, not the partial or relative depth or rising of the Nile. Nay, if either of the words could be supposed to mean the quantity of the periodical rising, or the addition that is made to the ordinary height of the river at the time of the overflow, it would be ἀναβῆ; which may indeed seem to convey some idea or hint of this kind. Had ἀναβῆ therefore, instead of ἅλθαι, been joined to the *eight cubits*, as it is (unfortunately for this argument) joined to the *fifteen*, it would have been an objection, specious enough indeed, though by no means reconcileable to the whole scope and tenor of the context.

It is objected again, (*ibid.*) that Herodotus' account of 'sixteen and eight cubits cannot be ' well accounted for on any supposition, unless ' we suppose that the canals were cut after Myris' time, and so made a greater rise of the ' Nile, (*i. e.* from eight to sixteen cubits) necessary.' But surely, as such an extraordinary increase, from eight to sixteen cubits of water, could not be brought about at once, so neither was it at this time necessary. For in this infant state, as we may call it, of Egypt, when the main channel was of a greater breadth, and the inundations were at once both more extensive and uninterrupted, *the eight cubits at least*, which are here recorded to be the standard, may be well supposed to have been sufficient, at that time, for the exigencies of the country. And if *eight cubits*

*cubits at least* were necessary, a lesser height would not have occasioned a profitable inundation; and a much greater would not have been required. So that the land of Egypt, in this low and early condition of it, during the reign of Myris, might be sufficiently refreshed by an inundation of eight cubits, as one of sixteen (twelve feet at least above the supposed level of the ground at that time) must have been highly detrimental and destructive. If Egypt then, according to this account, had always continued the same (as the quantity of water brought down by the Nile has, one year with another, been the very same), neither had there been, since the time of Myris, any successive accessions of soil made to its banks, either in their height or breadth; these eight cubits of water would have still continued to be the standard of plenty, and the *Wafaa Allah*\*, to this very day.

Besides, *the cutting of canals*, which is here alleged, would be attended with a considerable loss of water in the main stream. Instead therefore of the Nile's rising upon an alteration of this nature from eight to sixteen cubits, the very reverse would certainly have happened. For the depth of the main stream being reduced by these contributions, to seven we will suppose, or a lesser number of cubits, (*viz.* in proportion to the capacity of these canals, and the uses for which they were intended), the river would actually have become lower than the land may be well supposed

\* See above, p. 226.

supposed to have been at that time; and consequently it would not have been able to overflow it.

In the diagram, (p. 385.) the annual successions of strata left by the sediment of the Nile, are all of them supposed to be upon a level; consequently, the whole Land of Egypt, from the river to the utmost extent of the inundation, must be so likewise. For as all fluids preserve a horizontal situation\*, the sediment, which falls and is precipitated from them, must, *cæteris paribus*, do the like. Unless the inundation therefore should be obstructed by some means or other from doing its office, the like effects must be equally produced in all parts. It does not seem probable therefore, that the land of Egypt† should have a  
‘ gradual

\* *Aqua dicta, quod superficies ejus æqualis sit. Hinc et æquor appellatum, quia æqualiter sursum est. Isidor.*

† ‘ It is remarkable, that the ground is lowest [*sloping* it should be, otherwise there is no antithesis] near all other rivers which are supplied from rivulets; but as no water falls into the Nile, in its passage through this country, but, on the contrary as it is necessary that this river should overflow the country, and the water of it be conveyed by canals to all parts, especially when the waters abate, so it \* *seemed visible to me*, that the Land of Egypt is lower at a distance from the Nile, than it is near it; and I imagined, that in most parts it appeared to have a gradual descent from the Nile to the hills.’ *Descript. of the East*, vol. i. p. 199. ‘ The Nile need not be so high overflowing by the banks of the canal, on the supposition that the ground is lower at a distance from the river.’ *ibid.* p. 250. ‘ Canals being made, it was not a bad Nile, though two cubits lower than the bad Nile of Herodotus, because a less height made it to overflow in some measure, as the banks of the canals were lower than the banks of the river,’ *ibid.* p. 252. ‘ As they have dikes to keep the water out of the canals, till the proper time come to let it in, so they have contrivances to keep it in some canals af-  
‘ ter

‘ gradual descent from the main river to the foot  
 ‘ of the mountains on each side.’ This we may  
 rather suspect to be a *deceptio visus* than a mat-  
 ter of fact.

For this inequality in the surface could not be  
 occasioned (for the reasons just now alleged) by  
 the more general and total inundations, such as  
 happened in the earlier ages, when the Nile was  
 neither bounded nor confined by mounds or ca-  
 nals, and when the whole Land of Egypt was  
*πῶς ποταμῶν, one continued plain*, as Herodotus ex-  
 presses it. Neither could this inequality be in-  
 troduced by the partial or distributive inunda-  
 tions, as we may call them ; such as were made  
 at, and after the time of Sesostris \*, by means of  
 these canals, together with their respective banks  
 and adjacent inclosures. The contrary would al-  
 ways follow, unless the Nile was entirely exclu-  
 ded ;

‘ ter the Nile is fallen, as well as in certain lakes when the Nile  
 ‘ grows low ; and from them they let it out at pleasure, on lands  
 ‘ that are higher [which wants to be explained] than the chan-  
 ‘ nels of the canals ; and Strabo takes notice of these methods  
 ‘ [but the place is not quoted] to hinder the water from flowing  
 ‘ in, or going out when it is in.’ *ibid.* p. 201. And again :  
 ‘ There is great reason to think, that [contrary to what is gene-  
 ‘ rally observed] the *plain* ground of Egypt is highest towards  
 ‘ the river, and that there is a gentle descent to the foot of the  
 ‘ hills ; and if so, when the canals were once opened, and the  
 ‘ water let into them, it would sooner overflow the banks of the  
 ‘ canals, than those of the river, after that the canals were cut,  
 ‘ though not sooner than before they were cut. But then the wa-  
 ‘ ter would overflow less, sooner abate, drain off, and evaporate,  
 ‘ by reason of the greater outlet,’ &c. *ibid.* p. 250.

\* Egypt seems to have been watered by canals, and to have  
 had large lakes as early as the time of Moses, who is ordered to  
 stretch out his hands upon their streams, upon their rivers, and upon  
 their ponds, Exod. vii. 19. and viii. 5.

ded; which the Egyptians, from the great fertility and profit that attended the inundation; would never be induced to permit. No such declivity therefore, in the strata, could follow from the introduction and structure of the canals themselves, which (besides their civil and political use\*, in cantoning out this country into particular districts, in conveying the water to distant parts, and in preventing sudden invasions) were intended, not only to carry off the superfluous water, and thereby prevent the inundations from being hurtful, but to convey and distribute them likewise, with greater economy and conveniency, to the very skirts of the mountains.

Wheresoever likewise we meet with any banks or mounds (whether they are intended, according to the exigence of the country, to shut out, to receive, or to retain the water, as it was sometimes practised in the outlets to the lake of Myris †), there they are much of the same height

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and

\* Απο δε τῶν τε χρόνῳ Αιγυπτῶς ἑσθὰ πιδίως πασα ἀνίππος καὶ ἀναμαζεύτος γίγναι. Αἰτίαι δι τούτων αἱ διωρυχῆς γιγνομένης, ἑσθὰ πολλὰ καὶ παντοίοις τρυποῖς ἐχθροῖς· κατὰ τὴν δὲ τοῦδε εἰνέκα τὴν χώραν ὁ βασιλεὺς, ὅσαι τῶν Αἰγυπτίων μὴ ἐπὶ τῷ ποταμῷ ἐκτὸς τοῦ ποταμοῦ, ἀλλ' ἀναμαζεύτος, αὐτοὶ ὅπως τι ἀπὸ τοῦ ποταμοῦ σπανίζοντες ὕδατιν, πληυτέρως ἐχθροῖς τοῖς ποταμοῖς ἐκ φρενῶν χρησόμενοι. Herod. Eut. p. 144. Κατὰ πασάν δὲ τὴν χώραν τὴν ἀπὸ Μιμήφιδος ἐπὶ θαλάσσης ἐρυξὶ πυκνὰς ἐκ τοῦ ποταμοῦ διωρυχάς, ἵνα τὰς μὲν συκοειδὲς τῶν ἀκρῶν ποιῶνται συντομὰς καὶ ῥαδίως, τὸν δὲ πρὸς ἀλλήλους τῶν λαῶν ἐπιμειξίας καὶ πᾶσι τοῖς τοποῖς ὑπαρχὴ ῥάσων καὶ παντὶ πρὸς ἀπολαύσιν πολλὴ δαψίλεια. τὸ δὲ μεγίστον, πρὸς τὰς τῶν πολέμων ἐφοδὸς οὐχὺν καὶ δυσμετέλους ἐποίησιν τὴν χώραν. Diod. Sic. l. i. p. 36.

† Ἐπικείται δὲ τοῖς γαιμαῖσι ἀμφοτέρως τῆς διωρυχῆς κλῆδρα αἱ ταμίαι· αἱ ἀρχιτεκτονικοὶ τὸ, τὴν ἐν τῇ ὕδατι, καὶ τὸ ἐκ τῆς. Strab. l. xvii. p. 557.

and quality, both along the edges of the main stream, and along the edges of the correspondent branches and canals. What determinate height of water therefore would be requisite to overflow and refresh the grounds adjacent to the one, would be neither more nor less sufficient for the other. As the water therefore in the canals, from the very nature, intention, and structure of them, must always keep pace, and be of the same horizontal height with the main stream, the very same fertilizing sediment, which, at any inundation, was brought down by this, would, *ceteris paribus*, be communicated likewise to the correspondent branches or canals. Similar effects would consequently follow, and one part of Egypt (I mean under the same parallel of latitude) would be no more accumulated with soil than another. As this supposed matter of fact then may be disputed, so will the conclusion likewise that is drawn from it, (p. 250.) viz. ‘ that  
 ‘ the Nile need not be so high, overflowing by  
 ‘ the banks of the canals; on the supposition  
 ‘ [which supposition requires to be further sup-  
 ‘ ported] that the ground is lower at a distance  
 ‘ from the river.’

If then the same height of water is required, in the collateral branches or canals, as in the main stream, to overflow the adjacent lands; what determinate height of it soever is or has been necessary for that purpose, in any given age, or period of time, will, in a great measure, determine the height of the Land of Egypt at that time.

time. But this is not to be understood of extraordinary inundations, such as wash and carry away the mounds and inclosures, and sometimes large portions of the land itself; but of the ordinary and usual overflows, such as are managed and conducted according to the proper wants and exigencies of the country. These, I say, will very nearly ascertain the height of the land above the bed of the river. For, in the two cases already quoted from Herodotus, they both of them seem to be well circumstantiated, and (I had almost said) conclusive for this hypothesis. For the appellation of *τελαχιστον*, *at least*, which is there ascribed to them both (to the rising of the Nile to eight cubits in Myris' time, and to that of fifteen nine hundred years afterwards) will point out to us the barely sufficient quantity of water that was necessary at those respective times; and consequently, that a less quantity, as being lower (we may suppose) than the lands to be refreshed, would not have been able to effect it.

If we could then know what height of water *at least* was required at present for the exigencies of the country, particularly near Geeza or Memphis, the supposed scene of these alterations, we should so far determine the quantity of soil that has been there accumulated since the time of Herodotus. In A. D. 1721, when I was in Egypt, the Nile rose considerably, and yet the banks were not full, after the *Wafaa Allah* or standard of sixteen (*i. e.* eighteen\* cubits) was proclaimed,

without

\* 'As they publish (says the author of the *Description of the East*,

without laying the neighbouring plains under water. We will suppose then, that the addition of two cubits more, making in all **twenty**, would have been sufficient for this purpose. Now as the cubits, by which the rising of the Nile is computed at present, are not only more in number, but of a greater length than those that are recorded by Herodotus, the difference in the measure, will give us the difference in the height of the soil; or, in other words, if, in Herodotus's time, fifteen Grecian cubits *at least* of water were required to prepare the land for tillage, and twenty *at least* of much longer cubits are required at present, the land must have received an accession of soil in proportion. If then the length of the present

‘*East*, vol. i. p. 258.) such an extraordinary rise as fifty inches, about the time that they declare it is risen sixteen pikes, it is probable, that they keep private the real rise before that time; which may be a piece of policy of the people not to pay their rents if it *does not rise to eighteen pikes*; for unless it rises so *high*, they have but an indifferent year; and possibly when they declare that the Nile is sixteen pikes high, it may be risen to *eighteen*.’ And again, p. 200. ‘Eighteen pikes is an indifferent Nile, *twenty* is middling, twenty-two is a good Nile, beyond which it seldom rises; and it is said, if it rises above twenty-four pikes, it is looked on as an inundation, and is of bad consequence, as the water does not retire in time to sow the corn. But I cannot find any certain account when this has happened.’ And again: ‘The manner of computation has been altered; the highest having been eighteen pikes, whereas now it is twenty-four. The pillar also seems to have been changed.’ p. 254. Vid. *supra*, p. 225. ☞ Eighteen cubits are recorded for the standard by P. Alpinus, l. iv. c. 2. *Hist. Nat. Ægypti*. Sandys (p. 75.) acquaints us, that when he was at Kairo, near 140 years ago, ‘the Nile rose twenty-three cubits, and sometimes it would rise to twenty-four.’ But unfortunately, that curious traveller has not given us the length of the cubit by which they measured at that time.



present cubit should be (as I have supposed it, p. 224.) twenty-five inches, Egypt, by requiring two hundred and sixty<sup>n</sup> inches more water to overflow it than in the time of Herodotus, must have therefore gained the like additional height of two hundred and sixty inches in its soil.

But it is still argued, (p. 252.) that ‘no computation can be made how much the soil has risen, from considering how much the Nile ought to rise for the benefit of the country. And this is supported by further alleging, that all this depends on the openings and outlets there are for the water, on their breadth and their depths, on their being kept clean or neglected.’ Now it may be observed of these canals, and their outlets, that their chief use is either to attend the motion, and to keep up a constant height and pace with the main stream, or else, by damming up their mouths, they are to serve for so many basons or reservoirs, when the inundation is over. When therefore the water in these canals begins to stagnate, either by being dammed up, or by being forsaken by the main stream, (for the beds of the canals, by the easier subsiding there of the mud, become frequently higher, if they are not kept clean, than the bed of the main stream); in these cases, and upon such revolutions and accidents, the Nile is no further concerned; its operation and influence (at least with regard to these canals) cease, and art and labour begin then to take place. If then these canals should, or had at any time been too  
many

many in number, or of too great capacity, so as to have drained off too much water from the main stream, the height of water that otherwise might have been sufficient to refresh the country, would hereby become too scanty and deficient; and, without the assistance of art, (*viz.* by drawing up the water with instruments), a famine must have necessarily followed. Or again, if these canals were all, or most of them choaked up, so that the whole body of water reverted to the main stream, the consequence would be still worse; because the rising would now be more than sufficient, and occasioning thereby too copious an overflow, would leave behind it too great a stagnation of water. These canals, therefore, and their outlets, appear to be incidental occurrences only, adapted and accommodated, from time to time, to the exigencies and demands of the country; without bearing any relation at all either to the real and physical rising of the Nile, to the quality of these inundations, or to the alterations in the soil that have been consequent thereupon.

Why Egypt therefore, in the time of Myris, should require *at least* eight cubits of water to prepare it for tillage, and nine hundred years afterwards fifteen, and at present twenty or twenty-two, and yet have always continued the same, by losing, as it has been alleged and objected, ‘ in the produce of the crop, what is annually gained by the sediment;’ or, ‘ by the bed of the channel rising in proportion with the banks;’  
or,

or, 'by the supposed relation and analogy between the river, the canals, and their outlets,' (none of which propositions are to be admitted without further proof); cannot, I presume, be accounted for upon any other principle, either of reason or experiment, than that gradual rising of the soil, which I have all along been contending for, and which, by these additional arguments, I hope is now sufficiently proved.

## SECTION V.

### *Of the Egyptian Plants and Animals.*

As the whole Land of Egypt, properly so called, is annually overflowed by the Nile, it does not seem capable either of producing or nourishing a great variety either of plants or animals. However, Prosper Alpinus, Bellonius, and other authors of great reputation, have been very copious upon both these subjects. And as I am unwilling to repeat after them, I shall make this remark only upon their several accounts, *viz.* that if the aquatic plants and animals (which are not many) are excepted, there are few other branches of the natural history that are coeval with Egypt. The musa, the palm, the cassia fistula, the sycamore, nay even the leek and the onion, were originally as great strangers as the camel, the becker el wash, the gazel, and the jeraffa. For as it has been proved in the two foregoing chapters, that Egypt was not made at once, but in process of

of

of time, one part after another, it cannot claim the like antiquity with other countries, in its animal or vegetable productions; all or most of which must have been gradually transplanted into it from other the neighbouring regions, as it became capable to nourish and receive them.

Yet even some of those plants and animals, that may be reckoned among the indigenæ, or at least of great antiquity in this country, are now either very scarce, or entirely wanting. For the inhabitants have left us very little or nothing at all remaining of the papyrus, by continually digging up the roots of it for fuel; the persea too, that had formerly so great a share in their symbolical writing, is either lost, or the descriptions of it do not accord with the Egyptian plants that are known at this time. It cannot certainly be the persica, or peach tree, as it is commonly rendered, because the leaves of it were perennial, and fell not, as these do, every autumn.

As it seldom or never rains in the inland parts of Egypt, the different species of grain, pulse, and other vegetable productions, are entirely indebted to the water of the Nile for their growth and increase. Yet they are not all of them raised and nourished in the same way. For barley and wheat (which are usually ripe, the first about the beginning, the latter at the end of April) require no further culture and refreshment than, after the inundation is over, whether in October, November, or sometimes so late as December, to be thrown upon the mud; or, if the mud is too  
hard

hard and stiff, then it is to be beat or plowed gently into it. At the same time also, as I was informed, (for a Christian is not permitted to inspect narrowly into their plantations of rice), they sow *flax* and כִּסְמָת, or *rice*, Exod. ix. 32. as I suppose it may be rather rendered than *rye*, or *fitches*, or *spelt*, as it is otherwise translated, Isa. xxviii. 25. Ezek. iv. 9. the first of which, viz. *rye*, is little if at all known in these countries, and is besides of the quickest growth. Now, as wheat and rice are of a slower growth than flax or barley, it usually falls out in the beginning of March, that the *barley is in the ear*, and the *flax is bolled*, when the *wheat* and the *rice* are not as yet *grown up* (אֲפִילָה), or begin only to spindle. For the word, which we render *were not grown up*, is in the LXX ὀψιμα; i. e. *serotina*, *late* or *backward*; and, in the margin, *they were dark*, or, as we may perhaps explain it, *they were of a dark green colour*, as young corn generally is, in contradistinction to its being of a light yellow or golden colour, as when it is ripe. For the context supposes the wheat and the rice not only to have been sown, but to have been likewise in some forwardness, as they well might be in the month of *Abib*, answering to our March; otherwise it would have been to no purpose to have mentioned *the hail falling upon them*, which destroyed indeed the barley and the flax, but the *wheat and the rice were not smitten*, because their leaves at that time were of so soft and yielding a nature,

that the hail, by meeting with no resistance, as from the flax and barley, did them no harm.

The plantations of rice are kept almost constantly under water; and therefore the larger crops of it are produced near Dami-ata and Rozetto, where the ground, being low, is more easily overflowed than those portions of it, which lie higher up the river. Rice, or *oryza*, as we learn from Pliny (l. xviii. c. 17.) was the *olyra* of the ancient Egyptians.

Besides the use that is commonly made of barley to feed their cattle, the Egyptians, after it is dried and parched, make a fermented intoxicating liquor of it, called *bouzah*, the same probably with the *avos agibnos* of the ancients. This is very copiously drank by the lower rank of people, and might be one species of the *siccar* \*, or strong drink, which is mentioned in Scripture; for spirits drawn by the alembic, were not, we may presume, of this antiquity.

Such vegetable productions as require more moisture than what is occasioned by the inundation, are refreshed by water drawn out of the river by instruments, and lodged afterwards in capacious cisterns. Archimedes' skrew † seems to have been the first that was made use of upon these occasions; though at present the inhabitants

\* St Jerome (Epist. ad Nepotianum) acquaints us that the *sicera* was made of several things, as of barley, ripe grapes, figs, siliquæ, cornel-berries, &c. 'Omne quod inebriare potest, sicera dicitur.' Id. de Nom. Hebr. Vid. Cant. viii. 2. of pomegranate wine.

† Diod. Sic. l. i. p. 21.

tants serve themselves either with leathern buckets, or else with a *sakiah*, as they call the Persian wheel, which is the general, as well as the most useful machine. However, engines and contrivances of both these kinds, are placed all along the banks of the Nile, from the sea quite up to the cataracts; and as these banks, *i. e.* the land itself, become higher in proportion as we advance up the river, the difficulty of raising water becomes likewise the greater.

When therefore their various sorts of pulse, safranon (or carthamus), musa, melons, sugar canes, &c. all which are commonly planted in rills, require to be refreshed, they strike out the plugs that are fixed in the bottoms of the cisterns, and then the water gushing out, is conducted from one rill to another by the gardener, who is always ready, as occasion requires, to stop and divert the torrent, by turning the earth against it with his foot, and opening at the same time with his mattock a new trench to receive it. This method of conveying moisture and nourishment to a land rarely or ever refreshed with rain, is often alluded to in the Holy Scriptures, where also it is made the distinguishing quality betwixt Egypt and the Land of Canaan. "For the land," says Moses to the children of Israel, Deut. xi. 10, 11. "whither thou goest in to possess it, is not as the land of Egypt, from whence ye came out, where thou sowedst thy seed, and wateredst it with thy foot, as a garden of herbs; but the land whither ye go to possess

“ possess it, is a land of hills and vallies, and  
 “ drinketh water of the rain of heaven.”

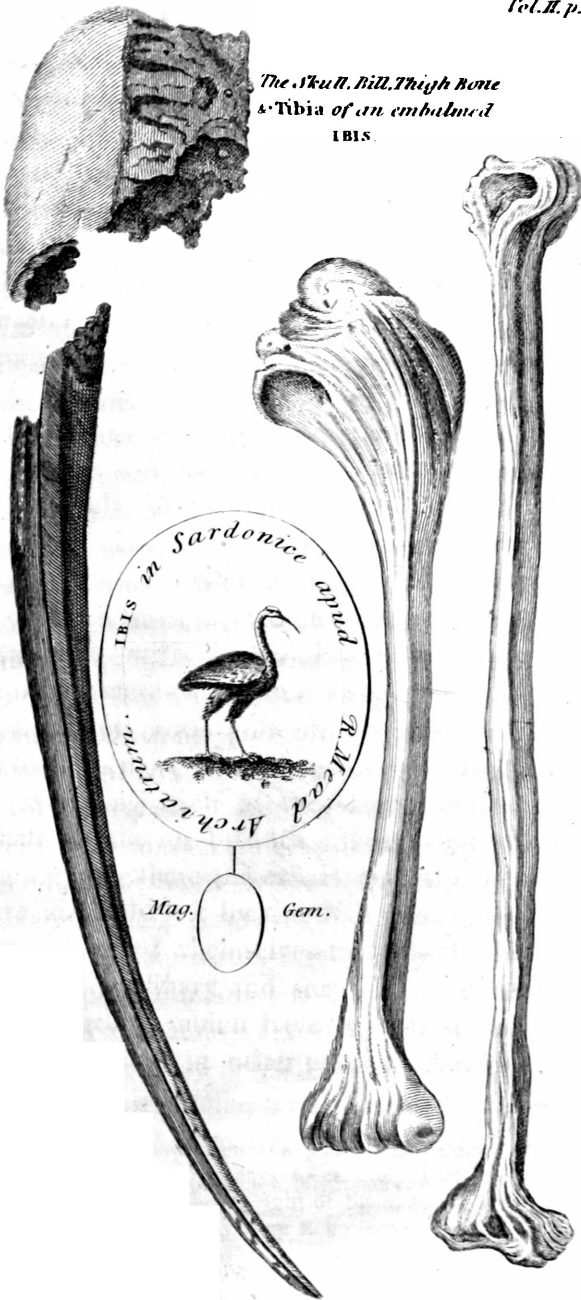
*Of the Egyptian Animals.*

IF, from this short account of their vegetable productions, we enquire after their animals, the hippopotamus is what the present race of Egyptians are not at all acquainted with. Nay, the very crocodile, or *timsah*, as they call it, so rarely appears below the cataracts, that the sight of it is as great a curiosity to them as to the Europeans. In like manner the ibis, that was once known to every family, is now become exceedingly rare; neither could I learn that it was any where to be met with. By the skeleton of one of these birds embalmed, which I brought from Egypt, the upper part of the bill (for the lower is mouldered away) is shaped exactly like that of the *numenius*, or curlew. The thigh bone is five, and the *tibia* six inches long; each of them smaller and more delicate than in the heron; and consequently the *crus rigidum*, which is attributed to it by Tully\*, seems to be without foundation. The feathers are so scorched, by the composition they were embalmed with, that they have lost their original colour, which, according to Plutarch, should be both black and white as in the *pelagys*. That part of the rump, or region  
of

\* *Ibes maximam vim serpentium conficiunt, cum sint aves excelsæ, cruribus rigidis, corneo proceroque rostro.* De nat. Deor. l. i. p. 210. Ed. Lamb.



The Skull, Bill, Thigh Bone  
& Tibia of an embalmed  
IBIS.





of the kidneys, which remains, is of the same bigness as in an ordinary pullet; from which circumstance, the ibis appears to have been of a smaller size than our heron or bittern. The figure which I have of this *παραγωγὸς ορνέον*, in a sardonix; (the same likewise that is upon an Egyptian medal of Hadrian, in the smaller brass), shews it to come nearer to the stork, in shape and in gesture too, than to either of the birds last mentioned.

But the loss of the ibis is abundantly supplied by the stork. For, besides a great number of them that might undoubtedly escape my notice, I saw, in the middle of April 1722, (our ship lying then at anchor under Mount Carmel), three flights of them, some of which were more open and scattered, with larger intervals between them; others were closer and more compact, as in the flights of crows and other birds, each of which took up more than three hours in passing by us, extending itself at the same time more than half a mile in breadth. They were then leaving Egypt, where the canals and the ponds that are annually left by the Nile were become dry, and directed themselves towards the N.E. No less extraordinary and surprising are those flights of pigeons, which have been observed in New England, and in other parts of America\*.

This

\* ' In Virginia, I have seen the pigeons of passage fly in such continued trains three days successively, that there was not the least interval in losing sight of them, but that somewhere or other in the air they were to be seen continuing their flight

This I mention as a parallel case, because some do not easily give credit to my account.

It is observed of the storks, *when they know their appointed time*, Jer. viii. 7. that, for about the space of a fortnight, before they pass from one country to another, they constantly resort together, from all the circumjacent parts, in a certain plain; and there forming themselves, once every day, into a *dou-wanne*, or council, (according to the phrase of these Eastern nations), are said to determine the exact time of their departure, and the place of their future abodes. Those that frequent the marshes of Barbary, appear about three weeks sooner than the flights above mentioned, though they likewise are supposed to come from Egypt; whither also they return a little after the autumnal equinox, the Nile being then retired within its banks, and the country in a proper disposition to supply them with nourishment.

The Mahometans have the *bel-arje* (for so they commonly call the stork\*) in the highest esteem and veneration. It is as sacred among them, as the

‘flight south. Where they roost (which they do on one another’s backs) they often break down the limbs of oaks by their weight, and leave their dung some inches thick under the trees they roost upon.’ Catesby’s Carolina, p. 23.

\* *Leklek* or *Legleg* is the name, that is commonly used by the Arabian authors, though *bel-arje* prevails all over Barbary. Bochart (*Hieroz.* l. ii. c. 29.) supposeth it to be the same with the *hasida* of the Scriptures, a bird which was so called from the piety of it. Nam *קסירה* *piam* et benignam sonat. Id. *ibid.* *Eximia ciconiis* inest pietas. Etenim quantum temporis impenderint feetibus educandis, tantum et ipse a pullis suis invicem aluntur. Solin. *Polyhist.* c. 53. *Ælian. Hist. Animal.* l. iii. c. 23. Horap. l. ii. c. 55.

the ibis was amongst the Egyptians, and no less profane would that person be accounted who should attempt to kill, nay even to hurt or molest it. The great regard that is paid to these birds, might have been first obtained, not so much from the service they are of to a moist fenny country \*, in clearing it from a variety of useless reptiles and insects, as from the solemn gesticulations which they make, whenever they rest upon the ground, or return to their nests. For, first of all, they throw their heads backwards, in a posture of adoration ; then they strike together, as with a pair of *castanets* †, the upper and lower parts of their bill ; afterwards they prostrate their necks in a suppliant manner down to the ground, repeating the same gesticulations three or four times together. The Eastern nations have the like reverence for the pigeon, and all the dove kind, whose cooing, or in the prophet's expression, Nah. ii. 7. *their tabring upon their breasts*, they interpret as so many acts of worship and devotion. For upon these occasions  
their

\* Thus it is said of the prophet of Thessaly, Θεσσαλοι δι πιλαργυς (σιμησαν) ότι πολλυς οφεις της γης αναδιδοσης εκωλησαν απαντας. Plut. de Isid. p. 380. Honos iis serpentium exitio tantus, ut in Thessalia capitale fuerit occidisse. Plin. l. x. c. 23.

† From this noise it was called *crotalistris* by the ancients, the *crotalum* being likewise supposed to have been taken from it.

----- crepitante ciconia rostro. *Ovid. Met. l. vi.*

Sonus, quò crepitant, oris potius, quam vocis est. Solin. Polyhist. ut supra. Και ουτος πιλαργυς, ιπαδαν παριοντας ημας ΚΡΟΤΙΣΩΝ. Philostr. Epist. ad Epict. Ciconiæ, quasi Cicanizæ, a sono, quo crepitant, dictæ sunt ; quem rostro quatiente faciunt. Isid. Orig. l. xii. p. 1134.

their souls are supposed to go out in search of God ; or, in the Psalmist's phrase, *to call upon him*. The storks breed plentifully in Barbary every summer. They make their nests with dry twigs of trees, which they place upon the highest parts of old ruins or houses, in the canals of ancient aqueducts, and frequently (so very familiar they are, by being never molested) upon the very tops of their mosques and dwelling houses. The fir, and other trees likewise, when these are wanting, *are a dwelling for the stork*, Psal. civ. 17.

The sands and mountainous districts, on both sides of the Nile, afford us as great a plenty, both of the lizard and the serpentine kinds, as are found in the desert of Sin. The cerastes, probably the true Egyptian aspic, is the most common species of the latter. Signore Gabrieli, whom I have mentioned above, shewed me a couple of these vipers, which he had kept five years in a large crystal vessel, without any visible food. They were usually coiled up in some fine sand, which was placed in the bottom of the vessel ; and when I saw them, they had just cast their skins, and were as brisk and lively as if newly taken. The horns of this viper are white and shining, in shape like to half a grain of barley, though scarce of that bigness.

Of the lizard kind, the warral is of so docible a nature, and appears withal to be so affected with music, that I have seen several of them keep exact time and motion with the dervishes, in their circulatory dances, running over their  
heads

heads and arms, turning when they turned, and stopping when they stopped. I have likewise read that the dab, another lizard which I have described \*, is a lover of music, particularly of the bagpipe †. This, I presume, (as there is no small affinity betwixt the lizard and the serpent kind), may bear some relation to the quality which the latter is supposed to have, of being charmed and affected with music. The Psalmist alludes to it (Psal. lviii. 4, 5.) *When he mentions the deaf adder, which stoppeth her ear, and refuseth to hear the voice of the charmer, charm he never so wisely.* The like is taken notice of Eccles. x. 11. *Surely the serpent will bite without enchantment, and a babbler is no better.* Jer. viii. 17. *I will send serpents, cockatrices among you, which will not be charmed, and they shall bite you.* The expression of St Paul, *τα βιλα τῷ πόντῳ ὄσεισαι*, Eph. vi. 16. is supposed likewise to be in allusion to the *οφίων ἰόν ὄσεισαι* of Orpheus, in the preface *πρὸς λίσσιν*. In all which texts of Scripture, the charming of serpents seems to be alluded to, either as a matter of fact, or as an opinion at least that was commonly received. The same notion of preventing the venom of serpents, and other noxious ani-

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mals,

\* Vid. vol. i. p. 325.

† Mr Greaves' friend at Grand Kairo had many four-legged serpents (lizards) blackish, with long knotty tails, ending in a point obtuse. These are something like the crocodile; but differ in the head, and tail, and skin. These serpents (lizards) when the weather is hot, would, upon music, come out and run upon him; but in the winter they lie as dead. Yet some of them will scramble a little and move. Of this music, they love the bagpipe best. Greaves' Observations, vol. ii. p. 523.

imals, by charming them with certain sounds, or by muttering some particular words, or by writing upon scrolls of paper certain sentences or combinations of numbers, has formerly prevailed all over Greece \* and Rome, as it does to this day, all over those parts of Barbary where I have travelled †.

I was informed, that more than forty thousand persons in Kairo, and in the neighbourhood, live upon no other food than lizards and serpents. This singularity entitles them, among other religious privileges, to the honour of attending more immediately upon the embroidered hanging of black silk, which are made every year for the *kaaba* of Mecca, and conducted with great pomp and ceremony, from the castle, through the streets of Kairo, the day when they set out upon their pilgrimage to that place. I saw, upon this occasion, a number of this order, who sang and danced before it, throwing their bodies, at certain intervals, into a variety of enthusiastic gestures. Such like acts of devotion, how ludicrous soever they may appear to us, have been always looked upon with reverence by the Eastern nations. Thus we find, (Psal. cxlix. 3.) that *the Lord's name was to be praised in the dance*. And again, (Psal.

\* *Διηγουμένης ἡγὼ πυνθανομαι μαγεῖα τινι ἐπιχειρῶν ὑπὸς οὐρίδας ἐκ τῆς κραυγῆς καταφθεῖν. τινὲς δὲ φυλακῇ τῆς οὐφῆς ἀπακίδας τισὶ κατακητιύσασθαι, εἴτα μὴτοι προαγῶσι ῥαψα.* Ælian. Hist. Animal. l. vi. c. 33. Bochart. (in Hieroz. par. post. l. iii. c. 6.) has collected a great many authorities, both from Greek and Latin authors, to this purpose.

† Vid. Pref. and vol. i. p. 365, &c. and Ludolf. Hist. Æthiop. l. i. c. 16. et Comment. p. 216.



(Psalm. cl. 4.) that *he was to be praised with the timbrel and dance.* Agreeably to which injunctions, *all the women went out after Miriam with timbrels and dances,* Exod. xv. 20. and David, *in bringing the ark from the house of Obed-Edom, danced before the Lord,* 2 Sam. vi. 14. 10

## SECTION VI.

*Some additional Observations with regard to the Animals of Egypt, particularly as they relate to the Holy Scriptures.*

It is very probable, that the sacred historian, in prohibiting or allowing several species of animals for food, made frequent allusions to those of Egypt, with which the Israelites (as just departed out of that country) may be supposed to have been well acquainted. The Egyptian zoology therefore, no less than that of the neighbouring parts of Africa, Palestine, and Arabia, deserves to be further inquired into and considered, as from thence no small light may be given to the Holy Scriptures in that curious branch of literature.

For how deficient we are in the knowledge of the Scripture animals, even after the many laborious researches of the Jewish rabbies, the sacred critics, and other persons of profound learning and experience, will sufficiently appear from the following doubts and observations. If then we begin with such quadrupeds of the wilder sort, as were allowed the Israelites for food, (for the tamer kinds are so well known, that they will admit

admit of no dispute), we shall find *seven* of them enumerated, Deut. xiv. 5. But with what uncertainty and disagreement the greatest part of them at least have been understood and interpreted, will sufficiently appear from the general view that is here given of their respective translations.

Heb.	I.	II.	III.	IV.	V.	VI.	VII.
LXX.	אֵיל <i>Aile.</i>	צִבִּי <i>Tzebi.</i>	יָחִמִּיר <i>Tackemur.</i>	אֶקֶן <i>Akko.</i>	דִּישֹׁן <i>Deshon.</i>	תָּהוּ <i>Thau.</i>	זֶמֶר <i>Zomer.</i>
	'Ελφες. Δορυς.		Βεβαλις.	-Τρωγλαφες.	Πυργαγος.	'Ορυξ.	Καμeloπαρδα- λιν.
<i>Vulg.</i>	Cervus. Caprea.		Bubalus.	Tragelaphus.	Pygargus.	Oryx.	Cameloparda- lis.
<i>Syr.</i>	Id.	Id.	Id.	Bos sylvestris.	Unicornis.	Hircus sylvestris.	Capra moni- cola.
<i>Paga.</i>	Id.	Id.	Id.	Silvestris hir- cus.	Id.	Oryx.	Capra rupico- la.
<i>Jun. Tre. Id.</i>	Id.	Id.	Dama.	Rupicapra.	Strepsiceros.	Bubalus.	Camelopar- dalis.
<i>Boch.</i>	Id.	Id.	Cervi aut Ca- preæ genus.	Sylvestris hir- cus.	Pygargi aut Tragelaphi gen.	Oryx s. Bos sylvestris.	Capreegenus.
<i>Eng.</i>	Hart. Roebuck.	Fallowdeer.	Willowdeer.	Willgoat.	Pygarg.	Wildbeest.	Chamois.

I. Let us examine them therefore, according to the order wherein they are placed, and begin with the *aïle*, which is rendered the *hart* or *deer*, in all translations. Now, as it may be presumed that the *aïle* is to be here understood γένος, or as a *kind* including its *species*, it will comprehend all the varieties of the deer-kind, at least as many of them as we are to enquire after at present, whether they are distinguished by round horns, such as are peculiar to the stag, or by flat horns, which is the chief characteristic of the fallow-deer, or by the smallness of the branches, which is the distinction of the roe.

II. The *tzebi* then, provided it be properly, as it is universally, rendered the roe, could at most be a variety only, or species of the deer-kind, and not a distinct genus itself. It may be questioned likewise, whether the roe\*, or, according to its Latin name, *caprea* or *capreolus*, was a native of these southern countries. For δαγας, the Greek name, may, with more probability, be rendered the *gazel* or *antilope*, which is very common all over Greece, Syria, the Holy Land, Egypt and Barbary. It is not likely therefore, that so noted an animal as this, should want a proper and peculiar appellation to identify and distinguish it from all other horned quadrupeds. If δαγας then is not this distinguishing appellation, what other can be appropriated to it? Inasmuch as it will be shewn, that the pygargus, the strepsiceros, the addace,

\* In Africa autem nec esse apros, nec cervos, nec capreas, nec ursos. Plin. l. viii. c. 58.

addace, and oryx, though noted names, do more properly belong to other species.

It may be further urged, that the characteristics which are attributed to the *δορκας*, both in sacred and profane history, will very well agree with the antilope. Thus Aristotle\* describes the *δορκας* to be the smallest of the horned animals, as the antilope certainly is, being even smaller than the roe. The *δορκας* is described to have fine eyes†; and, in these countries, those of the antilope are so to a proverb. *The damsel, whose name was Tabitha, which is, by interpretation, Dorcas*, (Acts ix. 36.) might be so called from this particular feature and circumstance. David's Gadites, (1 Chr. xii. 8.) together with Asahel, (2 Sam. ii. 18.) are said to be as swift of foot as the tzebi, and few creatures exceed the antilope in swiftness. Moreover the dorcas is generally named, together with the bubalus, in books of natural history‡, as the most common and noted animals of the more solitary parts of these countries; and such are the antilope and wild beeve. For the lerwee and lidmee, though they are equally natives, and perhaps the only other clean animals (the deer and buffalo excepted) that are so, yet being not so gregarious or frequently met with, have not been equally taken notice of. The antilope likewise is in great esteem

\* Ελαχιστον γαρ εστι των γινωριζομενων κεραιφόρων δορκας.

† Δορκας—οξυδερκης γαρ το ζων και ευαμμοστον. Etym.

‡ Herod. Melpom. p. 324. Strab. l. xvii. p. 568. In aridis quidem Ægypti locis, *capreoli* [instead of *dorcadæ*, there being no other Latin name to express it] *vescuntur et bubali*. Amm. Marcell. l. xxii.

esteem among the Eastern nations for food, having a very sweet musky taste, which is highly agreeable to their palates; and therefore the *tzebi* (or antelope, as I interpret it) might well be received, as one of the dainties at Solomon's table, 1 Kings iv. 23. If then we lay all these circumstances together, they will appear to be much more applicable to the gazel or antelope, which is a quadruped well known, and gregarious, than to the roe, *caprea* or *capreolus*, which was either not known at all, or else very rare in these countries.

III. As I suspect, the *dama* of Junius, or the *fallow-deer*, according to our translation, to be a native of these southern climates, or provided it was, would still be comprehended under the *aile*, or deer kind, *yachmur*\*, the third of these animals, may, with more probability, be rendered the *bubalus*, i. e. the *bekker el wash*, (vol. i. p. 310.) or *wild beeve*, as it is authorized by most translations. Now, it has been already observed, that the *bekker el wash*, or *bubalus*, frequents the more solitary parts of these countries, no less than the antelope, and is equally gregarious. Yet it is much larger, being equal to our stag or red deer, with which likewise it agrees in colour, as *yachmur* likewise, the supposed Scripture name, (being a derivative from חמר, *hommar*, *rubere*) may denote.

\* *Yachmour*, the correspondent name in the Arabic version, is defined by Lexicographi, to be *Animal bicornis, in sylvis degens, haud dissimile cervo, at eo velocius*; which description agrees very well with the *bekker el wash*.

note. The flesh of the *bekker el wash* is very sweet and nourishing, much preferable to that of the red deer. So that the *yachmur*, or *wild beeve*, as I have rendered it, might well be received with the deer and the antelope, at Solomon's table, as above mentioned, 1 Kings iv. 23.

IV. As the *rupicapra*, *syloestris hircus*, or the *wild goat*, are words of too general signification to be received for the *akko*, we may rather take it for that particular species of the wild goat, which the LXX and the Vulgate call the *tragelaphus*, i. e. the *goat-deer* by interpretation. The *tragelaphus* has been described (vol. i. p. 310.) under the name of *fishtáll* or *lerwee*, and is probably the very same animal that was brought into this island from Barbary about two centuries ago, and known in books of natural history by the name of *tragelaphus Carii*. As then these southern countries afford an animal to whom this name is highly applicable, *akko* may, with propriety enough, be rendered the *lerwee*, *tragelaphus*, or *goat-deer*. The horns of this species, which are furrowed and wrinkled, as in the goat-kind, are a foot or fifteen inches long, and bend over the back; though they are shorter and more crooked than those of the *ibex* or *steinbuck*. In the Arabic version, the *lerwee* is given (by transposition perhaps) for the following species or the *deshon*, which will rather appear to be the *pygarg*.

V. The *deshon* then, the next in order, is rendered in most translations, the *pygarg*. But what the *pygarg* is, and what are its distinguishing characteristics,

characteristics, will not be so easily determined. The word itself seems to denote a creature, whose hinder parts are of a white colour, and may therefore be equivalent in our language to the *white buttocks*. Such is the *lidmee*, which I have endeavoured to prove (vol. i. p. 312.) to be the *strepsiceros* \*; from the wreathed fashion of its horns, as it might also be the *addace*, which some authors suppose † to be corruptly given instead of *aldassem*, the Hebrew name. The *lidmee* is shaped exactly like the common antelope, with which it agrees in colour, and in the fashion of its horns; only that, in the *lidmee*, they are of twice the length, as the animal itself is of twice the bigness. I have one of these animals well delineated upon the reverse of a medal of Philip's, of the large brass, which I brought with me from Tisdrus, called by Mediobarbus, *capra amalthea*, by Angelloni, more justly, *gazello*; f. 301. The skins of the *lidmee* and *bekker el wash*; (for the *lerwee's* was lost in tanning), were deposited some time ago in the museum of the Royal Society, where they may be consulted by the curious.

VI. We come now to the sixth species, the *thau*, which has been generally rendered the *oryx*. Now the *oryx* is described to be of the goat-

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kind,

\* Cornua autem erecta, rugarumque ambitu contorta et in leve fastigium exacuta (ut lyra's diceret) *strepsiceroti* data sunt, quem *addacem* Africa appellat. Plin. l. xi. c. 37.

† *Strepsicerotes*---Sic enim Afri vocant *aldassem*, teste Plinio, l. xi. c. 37. etsi corrupte legimus *addacem*, appellatione ex nomine Hebræo et articulo eorum depravata. Jun. et Tremell. ad Deut. xiv. 5.

kind \*, with the hair growing backward or towards the head. It is further described to be of the size of a beeve, according to Herodotus †, and to be likewise a fierce creature ‡, contrary to what is observed of the goat or deer-kind, or even of the *bubalus*, or *bekker el wash*; which, unless they are irritated and highly provoked, are all of them of a shy and timorous nature. Now, the only creature that we are acquainted with, to which these signatures will in any manner appertain, is the *bufalo* ||, which is well known in Asia and Egypt, as well as in Italy, and other parts of Christendom. The *bufalo* then may be so far reckoned of the goat-kind, as the horns are not smooth and even, as in the beeve, but rough and wrinkled as in the goat. The hair, particularly about the head and neck, (for the other parts are thinly clothed), lies usually in a rough, curled, irregular manner. It is a little more or less of the size of a common beeve, agreeing so far with the description of Herodotus. It is also a sullen, malevolent, spiteful animal, being often known to pursue the unwary traveller, especially if clad in

\* Caprarum sylvestrium generis sunt et *oryges*; soli quibusdam dicti contrario pilo vestiri et ad caput verso. Plin. l. viii. c. 53.

† Μειγίλος δι το θηριον κατα βουιν. Herod. de Oryge in Melp.

‡ Οξύτερος θηρ.

Αγριοθυμιος ΟΡΥΞ, κρυφερος θηρισσι μαλιστα.

Oppian. Cyneg. l. ii. ver. 45.

|| *Buffelum* ex boum (ferorum potissimum) genere esse tota ipsius corporis figura loquitur.—*Buffelus* audax, ferusque, et infensus homini—Antiquum hujus quadrupedis nomen latet. Aldrov. de Quadr. bisulcis, p. 365.



in scarlet, as I myself have seen ; whom it will not only pursue, but, if not prevented by force or flight, it will attack, and fall upon with great fierceness. If the *bufalo* then, as being naturally of a wild and untractable disposition, was not originally reckoned among their flocks\*, (however it may have since become tamer and more domesticated) it may not improperly be taken for the *thau* or *oryx*, whereof we have had hitherto little account.

VII. Thus far we are well acquainted with the animals that still continue to be, as it may be presumed they have always been, natives of these countries. There is no small probability therefore, that they are the very same which were intended by the Hebrew names above recited. As for the *zómer*, which is the last we are to inquire after, it is rendered in most translations, the *camelopardalis*, and in the Arabic version *jeraffa*, or *zuraffa* ; which still continues to be the Eastern name of that quadruped. The Syriac explains it by *capra rupicola*, as we do by *chamois* ; though neither this nor the *ibex* are, as far as I can learn, inhabitants of these countries. Bochart calls it *caprae genus*, which, like most of his other names, are too general to be instructive. It is probable

\* *Columella* places the *oryx* amongst his *feræ pecudes* ; an expression that may rather denote the creature to be of a wild than of a fierce nature.—*Feræ foetæ pecudes, ut capreoli, damæque, nec minus orygm cervorumque genera, et aprorum.*—*Nec patiendus est oryx, aut aper, aliisque quis ferus ultra quadrimulum senescere.* Colum. l. ix. c. 1. What the same author observes, *de suis, olim feræ, nunc pecudes*, may be likewise applied to the *oryges, olim feræ, nunc pecudes.*

probable therefore, from this concurrence in most of the translations, the animal itself being likewise of the clean kind, that the *zómer* may be the same with the *jeraffa*. For though the *camelopardalis*, as it is objected by Bochart, was a very rare animal, and not known in Europe before Cæsar's dictatorship, (ten of them were exhibited at once, in the secular games, by the emperor Philip), yet it might still have been common enough in Egypt, as it was a native of Ethiopia, the adjoining country. It may therefore be presumed, that the Israelites, during their long captivity in Egypt, were not only well acquainted with it, but might at different times have tasted it.

For it is not the number or the plenty of the animals here enumerated that is to be regarded, but the nature and quality of them; so far, at least, as they agree with the characteristics (Lev. xi. 3. Deut. xiv. 6.) of *chewing the cud, and dividing the hoof*; and we may add, of having horns also, with which all the above mentioned species are armed. Neither are we to confine them altogether to such species only as were known to the Israelites at the giving of the law, but to such likewise as, in process of time, and in the course of their marches and settlements, they might afterwards be acquainted with. So that, upon the whole, and according to the best light and knowledge we have at present in this particular branch of the sacred zoology, the deer, the antilope, the wild beeve, the goat-deer, the white buttocks, the  
bufalo,

bufalo and jeraffa, may lay in the best claim to be the *aile*, *tzabi*, *yachmur*, *akko*, *deshon*, *thau*, and *zomer* of the Holy Scriptures.

If, from the quadrupeds, we carry our inquiries into the names and characteristics of birds, we shall find the same difficulties that were complained of above, still increasing upon us. For it was easy, by the plain and obvious characteristics of *chewing the cud and dividing the hoof*, to distinguish the clean quadrupeds from those that were unclean. But we find no such general and infallible distinction to have been applied to birds. For to be granivorous alone, could not be the specific mark of those that were clean; in as much as the ostrich, and several others which were entirely excluded, would then have appertained to this tribe. Or if we understand טהור *tohowr*, which we translate *clean*, to intimate the chastity of them, in opposition to such as were salacious, what birds agree more with the latter of these characters than the dove and the pigeon? which notwithstanding were reckoned clean, and universally allowed both for food and sacrifice. Or if *tohowr* should denote a clean eater, in contradistinction to those that live upon rapine, carrion, and nastiness, which may probably be the best construction of the word, yet even this cannot be universally received; because the tamer species of the gallinaceous kind are as fond of carrion and nastiness, wherever they find it, as some of the birds of prey. In the rabbinical learning, among other vague non-identifying characteristics,

racteristics, the clean birds have assigned to each of them a swollen neck, and an hinder toe extraordinary; expressive perhaps of the crops and spurs, as we call them, of the gallinaceous kind. But then several of those that are web-footed and clean, such as the goose and the duck, would be excluded; in as much as they are deficient in one or other of these tokens.

Or, if we suppose that all birds were clean in general, except those which are particularly recited by their names (Lev. xi. and Deut. xiv.) as unclean, yet still we shall be at a loss, unless we could be sure that a right interpretation has been put upon these names by our translators. On the contrary, how little truth and certainty we are likely to obtain in this point, will appear from the great variety and disagreement which we find in their respective interpretations. For it may be presumed, that every translator, for want of being acquainted with the animals peculiar to these eastern countries, would accommodate the Hebrew names, as well as he could, to those of his own. Thus הריה, *haddayoh*, (Deut. xiv. 13.) is rendered the *vulture*, and described to be *after his kind*. But as we are hitherto acquainted with one species only in these countries, it is improperly said to be *after his kind*. *Haddayoh*, therefore, must be the name of some other bird of a more extensive family. In like manner, if אנפח, *anophoh*, is rightly translated the *heron*, (ver. 18.) which likewise was *after his kind*, then the stork, from the near affinity to it, would not have been distinctly

distinctly given, but included in that tribe. One or other therefore of these original names must belong to some other bird not here specified. The kite or *glede* also, should not have been particularly mentioned, provided *הנץ*, *hancitz*, is the hawk; because as this was after his kind, (Lev. xi. 16.) the kite or *glede* would be considered only as a species. And it may be further observed, particularly with regard to our own translation, that the *ossifrage* and the *ospray*, (Deut. xiv. 12.) the *kite* likewise and the *glede*, (ver. 13.) are generally taken for synonymous terms; and consequently our English catalogue will fall short by two at least of the number that is given us in the original.

If we pass on from the birds, to the fowls that creep, *going upon all-four*, (Lev. xi. 20. &c.) which is the Scripture description of insects, we shall find this class of animals to be attended with no fewer difficulties than the former. For if the beetle, as we render *חרגל*, *hargol*, (ver. 22.) was to be eaten after his kind, then, among others, the *scarabæus stercorarius*, the filthiest of animals, was to be eaten. The locust too, as it was to be eaten after his kind, would properly have included the bald locust (perhaps the *mantis*) and the grasshopper. The bald locust and grasshopper therefore, instead of being laid down (*גורמים*) as *kinds*, should have rather been considered (*מין*) as *species* only of the locust-kind, and omitted upon that account. And indeed, the characteristics of this family, as they are given us in all translations,

translations, seem to be laid down with very little propriety.

For, in the first place, (שרץ העוף) *shairetz hoph*, which we render *fowls that creep*, may be more properly translated *breeding fowls*, or *fowls that multiply*, from the infinitely greater number of eggs that are produced by insects, than by volatiles of any other kind. It may be observed again, that insects do not properly walk upon four, but six feet. Ἐξαπὼδα δὲ τὰ τοιαῦτα πάντα εἶναι, says Aristotle, l. iv. c. 6. *De usu part.* ‘His omnibus,’ says Pliny, l. xi. c. 48. ‘sunt seni pedes.’ Neither is there any adequate description peculiar to this tribe conveyed to us, by their being said, *to have legs upon their feet, to leap withal upon the earth*; because they have this in common only with birds, frogs, and several other creatures. The original expression therefore (לורליו לנחר) *asher lo keraim memaal le-rigeleou lenettar*, &c. may probably bear this construction; viz. *which have knees upon, or above their hinder legs to leap\* withal upon the earth*. For to apply this description to the locust or הרבה, *harbah*, (the only one we know of the four†, that are mentioned, Lev. xi. 22.) this insect has the two hindermost of its legs or feet much stronger, larger and longer than any of the foremost. In them the knee, or the articulation

of

\* *Insecta, quæ novissimos pedes habent longos, saliant, ut locustæ.* Plin. l. xi. c. 84.

† *Viz.* ארבה *arbah*, סלעם *sailam*, חרגל *chargol*, חגב *chogab*; the three latter being ἑπὰς λεγόμενα. See the figure of the locust, in plate, p. 161. yol. ii.

of the leg and thigh is distinguished by a remarkable bending or curvature; whereby it is able, whenever prepared to jump, to spring and raise itself up with great force and activity. As the principal distinction therefore betwixt the clean and unclean insects, seems to have depended upon this particular shape and structure of the hinder feet, the action which is ascribed to the clean insects, of *going upon four* (*viz.* the foremost feet) and *leaping upon the (two) hindermost*, is a characteristic as expressive of the original text, as it is of the animals to whom it appertains.

After the *creeping fowls*, let us, in the last place, take a short survey of (שרץ השרץ) *shairetz hashairetz*, the *creeping things* (Lev. xi. 29, 30.) that *creep*, or (as *shairetz* is taken above, and Gen. i. 20, 21.) *which bring forth abundantly upon the earth*. As this then appears to be the Scripture phrase for reptiles, which are further described to be multiparous, with what propriety can we place among them the weasel, the mouse, the ferret, or the mole, which are no greater breeders than a variety of others of the lesser viviparous quadrupeds? For the tortoise, the chamæleon, the lizard, and the snail (the *slug* rather, or *limax*), are animals of a quite different nature, habit and complexion, having all of them smooth skins, and are likewise oviparous. Whereas the others partake altogether of such actions and characteristics, as are peculiar to the hairy viviparous unclean quadrupeds, that have paws for fingers,

(Lev. xi. 2. 3. 27.) and would of course be included among them. Instead of the weasel therefore, &c. may we not with more propriety join to this class, the toad, the snail or *cochlea terrestris*, the skink, or *κροκοδειλος ὁ χειρωνακτος*, LXX. the crocodile, or some other oviparous animals of the like prolific nature and quality?

But still the greatest difficulty will lie in appropriating the original names respectively to these, or if they are not approved of, to other species of the prolific ~~oviparous~~ animals, that may be found more suitable to them, or more peculiar to these countries. Among the rest however, it may be presumed that תַּנְשַׁמֶּת, *tinsameth*, bears no small relation to *champsä*, or *timsah*, the Egyptian appellation for the crocodile, as צַב, *tzab*, and לַטְאָה, *letaah*, have been already supposed, (vol. i. p. 325.) to be the *dhaab* and *taitah*, the Arabic names at this time for the *caudiverbera* and the *chamæleon*. But how variously interpreters have understood the original names of this class of animals, will sufficiently appear from the general view that is here given of them.

Heb.



<i>Ech.</i>	חדיד	עכבר	צב	אנקור	כח	לשאר	חמט	תנינפת
	<i>Choid.</i>	<i>Akber:</i>	<i>Tzab.</i>	<i>Anakah.</i>	<i>Coch.</i>	<i>Letaal</i>	<i>Chemel.</i>	<i>Thin-sameh.</i>
<i>LXX.</i>	<i>Falm.</i>	<i>Mus.</i>	<i>Kyrodontes.</i>	<i>Moyala.</i>	<i>Sapessidun.</i>	<i>Xaladonys.</i>	<i>Zauza.</i>	<i>Arumalak.</i>
<i>Vulg.</i>	<i>Mustela.</i>	<i>Mus.</i>	<i>Crocodilus</i>	<i>Mygale.</i>	<i>Chamaeleon.</i>	<i>Stellio.</i>	<i>Lacerta.</i>	<i>Talpa.</i>
<i>Syr.</i>	<i>Id.</i>	<i>Id.</i>	<i>Id.</i>	<i>Lacerta.</i>	<i>Talpa.</i>	<i>Salamandra.</i>	<i>Stellio.</i>	<i>Centipeda.</i>
<i>Raga.</i>	<i>Id.</i>	<i>Id.</i>	<i>Rubetra.</i>	<i>Viverra.</i>	<i>Lacerta.</i>	<i>Stella</i>	<i>Limax.</i>	<i>Talpa.</i>
<i>Jun. Tre.</i>	<i>Id.</i>	<i>Id.</i>	<i>Testudo.</i>	<i>Attalabus.</i>	<i>Id.</i>	<i>Id.</i>	<i>Chamaeleon.</i>	<i>Glio.</i>
<i>Ech.</i>	<i>Talpa</i>	<i>Mus agrestis.</i>	<i>Crocodilus</i>	<i>Stellionis</i>	<i>Waral Arab.</i>	<i>Lacerta stel-</i>	<i>Lacerta are-</i>	<i>Chamaeleon.</i>
<i>Eng.</i>	<i>Mississipi.</i>	<i>Mouse.</i>	<i>Tortoise.</i>	<i>Ferret.</i>	<i>Camaleon.</i>	<i>Lizard.</i>	<i>Snail.</i>	<i>Shole.</i>

**But,**

But, besides the great variety of animals which have been already taken notice of, from Lev. xi. and Deut. xiv. the Scriptures afford us a number of others, such as the *behemoth*, the *leviathan*, the *reem*, the *kaath*, the *tannim*, &c. that are no less difficult to explain, which will be the subject of the following section. With regard likewise to the botanical part of the natural history of the Holy Scriptures, we meet with the like doubts and obscurities; the *dudaim*, the *kikaion*, the *gopher*\* wood, the *almug* tree, with many others,

continuing

\* In Hutter's *Cubus*, the word נפר (which Hiller, in his *Hierophyticon*, supposes to be the same, by a transposition of letters, with נרף, and that the עצי נפר, Gen. vi. 14. consequently must signify ξυλα εὐλαγμένα, or boards smoothed with the plane) seems to be well rendered *pinus picea*, or the *torch pine*. And as the derivative נפרית is, in several places of Scripture, expressed in our translation by *brimstone*, the most inflammable of minerals, *gopher wood* may be the same with wood that will easily take fire; such as is the wood of the pine, the cedar, and other resiniferous trees. Besides the cedar and fir that were brought to Solomon from Libanus, we read likewise (2 Chron.) of the *almug*, or, by a transposition of letters, the *algum tree*. This we may take for the cypress, which Diodorus Siculus, l. xix. c. 58. and Bochart in *Phaleg*. l. c. 4. acquaint us, was equally known and flourishing in those parts. Of the *almug-trees* likewise were made harps and psalteries for the singers, 1 Kings x. 12. 2 Chron. ix. 11. the wood of it no doubt being of the closest grain, and fittest consequently for that purpose. The like use is still made in Italy, and other places, of the cypress wood, which is preferred to all others for violins, harpsichords, and other the like stringed instruments. Hiller, in his *Hierophyticon*, makes *algumim*, or *almuggim*, (as עצי, which is joined with it, is made to signify either wood or trees), to be the general name only for the wood of the gum-bearing trees, or for the trees themselves. 'Quid enim,' says he, p. 106. 'אגל גומים אלהים quam gutta gum-  
'mium? quid מוני אלהים quam מוני מוני liquidorum guttæ?  
'Omnia enim gummium genera primo liquida ex arbore manant,  
'deinde siccantur et durescunt.' But as the cedar trees, and the  
fir

continuing still in dispute, notwithstanding the same pains and labour have been equally bestowed upon that subject as upon the zoology.<sup>11</sup> For it must be universally acknowledged, that we are hitherto very imperfectly instructed, and want therefore to be much better acquainted with the real objects and things themselves, before we can be able to ascertain, with any certainty, their respective names, distinctions and varieties. The names likewise which they are called by at present in these eastern countries, would be of great assistance; as some of them, it may be presumed, continue to be the very same, whilst others may be traditional of, or derivatives\* from, the originals.

We must wait therefore for the aid and assistance of some future discoveries and observations, before these branches of natural knowledge are brought

fir trees are joined with the *almug* or *algum trees*, some particular species, rather than the whole genus, may be presumed to have been here rather intended.

\* Thus the word *nesser* (נֶסֶר) which is always rendered the eagle, is applied by the Arabs to the vulture only, which is a more specious bird; and indeed, from the baldness ascribed to the *nesser*, (Mic. i. 16.) we should rather take *nesser* for the vulture, which has no feathers, but a little white down only upon the head and neck, than for the eagle, which is properly clothed with feathers in those parts; for what is commonly called the bald buzzard or eagle, is not really so, but differs from the other species by the white feathers upon the crown. The *dhaab*, the *taukah*, &c. above mentioned, may be other instances. Among the plants likewise, *ailoh* (אֵילֹה) which is commonly rendered the oak, is in Barbary, among the Arabs, the ordinary name for a beautiful berry-bearing tree, otherwise called *azedarach*. The *safsaf* too of the Arabs, by which they understand the *abeile* or *poplar*, is the very same with the עֵפֶץ, Ezek. xvii. 5. which we render the willow tree.

brought to any tolerable degree of certainty. And indeed, provided every curious person, who has the good fortune to be acquainted with these countries, would contribute his share towards this valuable undertaking, it could not be long, according to the prevailing humour of travelling in this age, before a laudable, if not a sufficient quantity of materials might be collected for this purpose.

## SECTION VII.

*Of the Mosaic Pavement at Præneste, relating to some of the Animals and Plants of Egypt and Ethiopia.*

TILL the Scripture zoology and botany then are more fully and accurately considered and understood, it may be a digression not at all foreign to this subject, to give the reader, as an introduction to them both, a short description of the Mosaic pavement\* at Præneste; which lays before us, in a very beautiful manner, not only a great variety of the animals, but of the plants likewise that are mentioned in the sacred writings. It were to be wished indeed, that we had a more correct copy of it, carefully compared with the original; because the names, as well as the characteristics, particularly of some of the animals there exhibited, may be suspected to have  
been

\* See the history, &c. of this Mosaic pavement in Father Montfaucon's *Antiquities*, vol. xiv.



natissimo Viro, Amicomeo  
 urimum colendo,  
 auidi Gregory STP Adis  
 Canonico, Tabellam  
 ne graphice Exhibentem  
 hostrotum illud celebre  
 enestinum quo tam  
 sarum Obsequium  
 andro Magno  
 stitum quam alia  
 Egyptiorum &c.  
 res, studia civilem  
 uralemq3 Historiam  
 ctantia designantur;  
 ni, quâ par est,  
 ervantia D.D.D.  
 Thomas Shaw.

Inter Typos, tam Græquam Rôm, qui hic passim inser-  
 untur tales talia denotant; viz (A) Alexandrum M.  
 cum militibus, (B) Persægyptios obsequium et  
 redigal ei reddunt. (C) Civitates varias, viz  
 (D) Memphim, (E) Babylonem, et (F) ἱερὸν  
 ejus Egyptiorum. (G) Heliopolim, cum  
 obeliscis (H) Sacerdotibus et (I)  
 obeliscis (K) Varia Navigiorum  
 genera, cum eorundem vdis  
 et remis Inter Animalia, (L)  
 Hippopotamum, (M) Camdo-  
 pardalim, (N) Ichneumonem  
 (O) Pavonem &c. Inter Plantas  
 (P) κκκιογογον (Q) Muscam (R)  
 Lotum, (S) Sycorum, (T) Cas-  
 sia fistulam &c.







been either ignorantly or injudiciously taken. However, notwithstanding these few supposed faults and inaccuracies, the whole is a very valuable and instructive piece of antiquity, and presents us with a greater number and variety of curious objects, relating both to the civil and to the natural history of Egypt and Ethiopia, than are any where else to be met with.

The conquest of Egypt, which seems to be that part of Alexander's history which is here represented, is displayed with all imaginable art and elegance. We see that hero (a) standing in a commanding attitude, under a magnificent tent or canopy, attended by his warlike companions, and impatiently waiting for the tribute and submission of the Persians (A), which, in a very solemn procession, they are hastening to pay him.

On the right side of this curious groupe, and all the way from thence to the utmost extent of the pavement, we are entertained at every turn; amidst a variety of plants and animals, with different prospects of cities (v), temples (2), castles (4), bowers (5), dove-houses (6), toils \* for fish (y), the method of sitting at their banquets (x), &c. We see the fashion likewise of the Egyptian boats (7), and of the Grecian galleys (8), together with the quality of their sails and oars; and in what manner

\* These toils continue to be used by the Egyptians to this day. They are made up of several hurdles of reeds, fixed in some convenient part of the river, in various windings and directions, and ending in a small point; into which the fish being driven, are taken out with nets or baskets, as is here represented. The like practice has been taken notice of, vol. i. p. 210.

ner they are each of them managed, conducted, and employed. The habits and dress, the arms likewise and weapons of the Greeks, no less than of the Egyptians and Ethiopians, are often exhibited; and, from the scorpion, which is charged upon some of the Grecian shields, we may conclude them to have been of Commagene; and that the bearing of such like military devices was much older than the croisades. Besides all this variety of objects, we are entertained with a view of their respective actions, exercises and diversions; and, under the lower bower (ζ), we see a person playing upon an instrument; the very same with the *gaspah* of the present Arabs; (vol. i. p. 367.) or the German flute of these times. The fashion likewise of their cups, or, as we may rather call them, drinking-horns, is here depicted.

At Heliopolis (x), *i. e.* Bethshemesh, or *the house or city of the Sun*, Jer. xliii. 19. we are very agreeably entertained with the obelisks (ξ), that were erected before it\*. This city is further distinguished by a beautiful temple (π), the temple of the Sun, with the priests (ρ) standing before the portico †, clothed in white linen garments ‡; circumstances which are all of them very applicable to the ancient history of this city. The figure likewise, as it appears to be, of a well (σ), makes

\* Vid. Diod. Sic. l. i. p. 38. Strab. l. xvii. p. 554. edit. Casaub. Plin. l. xxxvi. c. 8. Vid. supra. p. 194.

† Strab. ut supra, p. 553-4.

‡ Herod. Eut. p. 116. edit. Steph.



makes part of this groupe; the bottom whereof is of a blue colour, to denote the epithet of *cærulea*, that was applicable to water\*. This too might have been designed to represent the *fons solis* or *ain el shims*†; the same fountain of fresh water, for which Mattarea, as Heliopolis is now called, continues to be remarkable.

After Heliopolis, we have the prospect of Babylon (Σ), so called from the Babylonians, who were the founders of it. It is distinguished by a round tower or castle (ς), the *φρουρον τετραγωνον*, as Strabo ‡ calls it, being the first part of the city that was built. Babylon was formerly called Latopolis ||, as it is at present Old and New Kairo; and, together with Heliopolis, made part of the land of Goshen.

On the other side of the river, towards Libya, is the city Memphis (Ω), distinguished by several colossal statues (Α), Hermes's, or mummies rather; the *stantia busto corpora*, as Silius Italicus § expresses it. The particular shape and figure of the basement (Ψ), upon which the city is built, may be very well intended to represent the banks and ramparts ¶, that were raised on each side of it, to secure it from the inundations and ravages of the Nile.

Upon a review, therefore, of all these remarkable circumstances, so applicable to Alexander's expedition in particular, and to the ancient state

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of

\* Ovid. Met. l. viii. ver. 229. † Vid. not. ‡, vol. ii. p. 90.

‡ Lib. xvii. p. 1160.

|| Vid. supra, p. 90.

§ Vid. supra, not. \*, p. 204.

¶ Vid. supra, p. 83.

of Egypt in general, there appears to be no small proof and evidence that the artist, whether Greek or Roman, had made himself as well acquainted with the topography and civil history of Egypt, as from the following circumstances, he will appear to have been conversant in the natural.

If we begin then with the animals, it may be observed of them in general, that,—I. Some being better known, as we may imagine, than the rest, are therefore delineated without names. II. Others have their names annexed to them in Greek capitals, of which some are well known. III. Others, though their names are known, yet the animals themselves have not been accurately described. IV. Others again there are, whose names are either unknown, or else have a dubious signification. I shall treat of these in their order.

I. Among those therefore of the first class, the precedence shall be given to the *crocodile* (H), which, from the *scaly quality*, Ezek. xxix. 4. and hardness of its coat, or *because his scales so stick together, that they cannot be sundered*, Job xli. 17. is therefore in no danger, ver. 7. *of having his skin filled with barbed irons, or his head with fish-spears*. The crocodile likewise is of too great weight and magnitude, ver. 1. *to be drawn out of the river*, as fish usually are, *with a hook*. The crocodile then, from these apposite characteristics, may be well taken for the *leviathan*, as it is described in the book of Job, and elsewhere alluded to in the Holy Scriptures; where the *leviathan*

*athan* is called *the piercing serpent* or *dragon*, Isa. xxvii. 1. where Pharaoh is called *the great dragon* or *leviathan*, Ezek. xxix. 3. where *the heads also of the leviathan* (i. e. of Pharaoh or Egypt) are said to be broken in pieces, Psal. lxxiv. 14. otherwise expressed in the preceding verse, *by breaking the heads of the dragons in the waters*, or *in the Rea Sea*; see Ezek. xv. 6. There is no small probability likewise (as, in the earlier ages, there was no great propriety in the Latin names of animals, vol. i. p. 315.) that the dragon or serpent, such an one as *Regulus* is said to have defeated with so much difficulty upon the banks of the *Bagradas*, was no other than the crocodile. For this animal alone (from the enormous size to which it sometimes arrives, from the almost impenetrable quality of its skin, which, we read, would hardly submit to the force of warlike engines) will best answer, as none of the serpent kind, properly so called, will do to that description.

The *hippopotamus*, or *river-horse* (1), is here expressed, as hiding and sheltering itself among the reeds of the Nile. Now the *behemoth* is described, Job xl. 21, 22. *to lie in the coverts of the reeds and fens*, and *to be compassed about by the willows of the brook*. The river-horse feeds upon the herbage of the Nile, and the behemoth is said, ver. 15. *to eat grass like an ox*. No creature is known to have stronger limbs than the river-horse; and the bones of the behemoth, ver. 18. are said to be *as strong pieces of brass*; *his bones*  
are

are like bars of iron. From all which characteristics, the behemoth and the river-horse, appear to be one and the same creature. And then again, as the river-horse is properly an amphibious animal, living constantly in fens and rivers, and might likewise, as it was one of its largest and most remarkable creatures, be emblematical or significative of Egypt, to which the Psalmist might allude, Psal. lxxviii. 30. ; the river-horse, I say, may, with much greater propriety than the lion or wild boar, be received for *the beast of the reeds*, as קנה חיה, *hhayath konah*, is better interpreted there, *the company of spearmen*, according to our translation. As for the lion and wild boar, one or other of which some have imagined to be this *hhayath konah*, they may with more propriety be said to retire into, or to shelter themselves among the tamarisks and the willows that attend watery places, than out of choice or election to live and make their constant abode therein. For the retiring, particularly of the lion, out of these thickets, upon the swelling of Jordan, supposes it by no means to be amphibious, as the river-horse certainly was.

The *camelopardalis*\* (ك), or *jeraffa*, as it is called

\* Καμηλοπαρδαλις---ὅν ὁμοίον ἔχουσιν παρδαλὶ το γὰρ παικίλον τῆς χροῆς (ἡδρίσι Cas.) πυρίσι μαλλόν εἰσι καὶ ῥαβδωτοῖς πῖλοις κατισγμέναις· τέλος δὲ τὰ ὀπισθία ταπεινότερα τῶν μπροσθίων εἰναι. ὥστε δοκεῖν συγκαθεσθαι τῷ ἡρώδι μέρει, τὸ ἕλκος βοῶς ἔχοντι.---Τραχηλὸς δὲ οὗς ἕλκος ἐξηρτημένος ὄρεος, &c. Strab. l. xvi. p. 533. ed. Casaub. Nabin Æthiopes vocant, collo similem equo, pedibus et cruribus bovi, camelo capite, albis maculis rutilum colorem distinguuntibus; unde

ed in Egypt and the Eastern countries, the *zómer* of the Holy Scriptures, (vol. ii. p. 283.) is sufficiently identified by its spotted skin and long neck. A little calf, as if it were just dropt from it, is lying by it.

The *cercopithecus* (z), a noted Egyptian deity, is more than once expressed; as is also the *dog* (m), the *latrator Anubis*, according to its symbolical name, which, from the shape of it, as it is here expressed, should be that particular species, which is called the *canis Graius*, or *grey-hound*. Now, as this quadruped is more remarkably contracted, or, according to the Scripture name, *girt in the loins*, Prov. xxx. 31. than most other animals, as it is likewise one of the *swiftest*, our interpreters seem to have judiciously joined it with the lion and the goat, among *those* three animals, ver. 29. *that are said to go well, and are comely in going*.

At a little distance from one of these grey-hounds (*\*M*), we have a smaller quadruped (*N*), which a large gaping serpent is ready to devour. This, from the size and shape, may be intended for the *ichneumon*, which Diodorus Siculus tells us, was of the size of a lap-dog.

The riding upon mules seems to have been of no less antiquity in Egypt, than in other Eastern countries;

unde appellata camelopardalis. Plin. l. viii. c. 18. Figura ut camelus, maculis ut panthera. Var. ling. Lat.

Diversum confusa genus panthera camelo.

Polit. c. iii. *Miscell.* Vid. p. 417.

countries \*; as appears from one of them, with a rider upon it, under the walls of Memphis (α). The rider perhaps was sent to apprize the capital of Alexander's invasion; as the person behind him on foot may denote the mule itself to have been hired, according to the like customary attendance of the owner, even to this day.

This pavement does not exhibit to us a great variety of birds. Among those that appear to be of the web-footed kind, we may take the smaller species of them (q), to be the goose; one of their sacred animals; as the larger may represent the *onocrotalus* (ϛ), another noted bird of the Nile, otherwise called the pelican. The remarkable pouch, or bag, that is suspended from the bill and throat of this bird, serves not only as a repository for its food, but as a net likewise wherewithal to catch it. And it may be further observed, that in feeding its young ones; whether this bag is loaded with water or more solid food, the *onocrotalus* squeezes the contents of it into their mouths, by strongly compressing it upon its breast with its bill; an action which might well give occasion to the received tradition and report, that the pelican, in feeding her young, pierced her own breast, and nourished them with her blood. קאֶת, *kaath*, which in Lev. xi. 18. Deut. xiv. 17. Psal. cii. 6. Isa. xxxiv. 11. Zeph. ii. 14. is translated in the text, or else in the margin, *the pelican*, can be no such bird; especially  
as

\* 2 Sam. xiii. 29. 1 Kings i. 33. Esth. viii. 10. Isa. lxvi. 17.

as it is there described to be a bird of the wilderness. For its large webbed feet, the capacious pouch, with the manner of catching its food, which can be only in the water, shews it entirely to be a water-fowl, that must of necessity starve in the desert.

Among the birds of the crane kind (s), we may pronounce one or other of them to be the *ibis*, from the curvature of its bill; as among the others, we are to look for the *stork* and the *damoiselle*, the dancing bird, or *otis* of the ancients, which are every where to be met with.

Besides the *eagle* (τ), which is displayed, in a flying posture, over one of the gates of Memphis, we should not overlook that beautiful bird(u), adorned with a blueish plumage mixed with red. This sits perching upon the same tree with the ΚΗΙΠΕΝ: and, provided the artist, in the course of these drawings, had taken the liberty to indulge his invention, we might have imagined it to have been intended for the *phoenix*, a bird that we are so little acquainted with. Herodotus acquaints us \*, that he saw one of them painted, which, though different from this, as being covered with red and yellow feathers, yet appears to be no other than the *manucodiata*, or bird of paradise; and therefore this and the *phoenix* were

\* 'Ἐστὶ δὲ καὶ ἄλλος ὄρνις ἰσὺς τῷ ὀνόματι Φοινίξ. Ἐγὼ μὲν μὴ οὐκ αἶδον, εἰ μὴ ὅσον γράφη· ἐστὶ δὲ ἐν τῇ γράφῃ παρρημοῖος, τοσαύτης καὶ τοιοῦτης. Τα μὲν αὐτὴ χρυσοκόμα [χρυσόχρον, Tan. Fab.] τῶν πτεράων, τὰ δὲ στυδῆα. ὡς τὰ μάλιστα αὐτῶν περιήγησιν ὁμοιωτάτος, καὶ τὸ μέγεθος. Herod. Eut. p. 131.

were probably the same. However, if the bird here displayed cannot be admitted among the birds of paradise, we may suspect it at least to be the peacock, which was a native of Ethiopia, and brought with other animals and curiosities from the south east parts of that country, to king Solomon, 2 Chron. ix. 21.

As in the whole course of these figures, a particular regard seems to have been had to the sacred animals of Egypt, the fish (Δ), that is exhibited below one of the pelicans (R), may be received for the *lepidotus* \*.

There is room to conjecture, from a couple of tortoises (ο), that are sunning themselves upon a bank of sand, and from the like number of crabs (P), that are swimming in the waters, that the inland parts of these countries were productive of both these animals.

Among the reptiles, we are entertained with some few species of the serpentine kind; though it is somewhat extraordinary, that none of them should have the marks and signatures of the *ce-nastes*, which was so well known in Egypt. The common snake, which may be exhibited among them, is called by the inhabitants of these countries, *hannesh*; which, by an easy transition and change of letters, is of the same force and sound with

\* Ναμίζουσι δὲ καὶ τῶν ἰχθύων τοὶ καλεσμένοι Λεπιδωτοὶ ἴσον οἶμαι, καὶ τὴν ἰχθελὺν. Herod. Eut. p. 131. The following species of fish are ascribed to the Nile by Athenæus, *Deipnos*. l. vi. ψῖξ. Νάχρη, χοῖρος, σίμος, φάγρος, ὀξύριχρος, ἀλλαβός, σιλυρός, συνδοτῖς, ἐλωτρίς, εἰχελὺς, θρίσσα, ἀοράμις, τυφλὴ, λεπιδωτός, φύσα, πείρις· καὶ ἄλλαι οὐκ ὀλίγαι.



with the Scripture [נחש] *nahhesh*. This (Gen. iii. 1.) is said *to be more subtle than all the other beasts of the field*; a character, how applicable soever it may be to the whole genus; yet it appears, in this text, to be only attributed to one particular species. The common snake, therefore, the same with the *natrix torquata* and the *anguis* of Æsculapius, was the very species of the serpentine kind that beguiled our first parents.

Others of this family (w), are represented of an enormous size; being probably intended for that branch of it, which are commonly called *δράκοντες* by the Greeks, and תנינים, *tanninim* \*, by the sacred writers. The largest of these (x), has seized upon a bird, which, from the contrast, appears to have fallen down directly into its mouth.

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\* There is no word in Scripture of a more indetermined meaning than תנין, תנינים or תנים; being sometimes taken for great fishes, for serpents, and sometimes for howling animals, or jackalls. Rabbi Tanchum, whose opinion is espoused by the great Dr Pococke, Hos. i. 8. and by his learned successor, Dr Hunt, (*Orat. inaug.*) lays down a general rule how to distinguish the several interpretations that are to be put upon the words, viz. that wheresoever תנין, תנינים or תנות are plurals, they signify those howling wild beasts that inhabit desolate places; but that תנין with תנים and תני in the singular, may be rendered *dragons, serpents, whales*, or the like. And accordingly תנין, Job xxx. 29. Psal. xlv. 19. Isa. xiii. 22. and xxxiv. 13. and xxxv. 7. and xliii. 20. Jer. ix. 11. and x. 22. and xlix. 33. and li. 37. Mic. i. 8. together with תנין, Lam. iv. 3. and תנות, Mal. i. 3. are to be taken for jackalls. But תנינים, Gen. i. 21. Exod. vii. 12. Deut. xxxii. 33. Psal. lxxiv. 13. and cxlviii. 7. together with תנין, Ex. vii. 9, 10. Job vii. 12. Psal. xci. 13. Isa. xxvii. 1. and li. 9. Jer. li. 34. and תנים, Ezek. xxix. 3. and xxxii. 2. are to be rendered *dragons, serpents, whales, sea-monsters*, or the like; according as they are spoken of such creatures, either as they relate to the land or to the water.

If then the common fame be true, that the rattle-snake\* and other serpents, have a power of charming birds and other animals, and bringing them down into their mouths, it may be presumed that we have here an action of this kind of great antiquity, and very pertinently recorded.

II. Among those animals, that are distinguished by their names, and are likewise well known, we may give the first place to the ΠΙΝΟΚΕΡΟΣ †. Now, as this is the only animal that we are acquainted with, which is usually armed with one horn ‡, (for what is commonly called the unicorn's

\* 'I am abundantly satisfied,' says the following author, 'from many witnesses, both English and Indian, that a rattle-snake will charm squirrels and birds from a tree into its mouth.' Vid. Paul Dudley, Esq. his *account of the rattle-snake*. *Philos. Trans.* No. 376. p. 292. Dr Mead on *Poisons*, p. 82. Others imagine, that the rattle-snake, by some artifice or other, had before bitten them; and as the poison did not immediately operate, the squirrel or bird, in the surprise, might betake themselves to some neighbouring tree, and afterwards fall down to be seized upon by the rattle-snake, which, sensible of the mortal wound that had been given, was impatiently waiting and looking for them.

† In Bartoli's drawings, which will be hereafter mentioned, the name is ΠΙΝΟΚΕΥΤΟΣ, which I presume must be a mistake. According to a late account I had of this pavement from my worthy friend, Thomas Blackburne, Esq. jun. of Warrington, he acquaints me that it is ΠΙΝΟΚΕΡΩC; as, among the other names, ΩΑΝΤΕC is ΘΩΑΝΤΕC, ΕΝΗΥΑΡΙC is ΕΝΥΔΡΙC, and ΚΡΟΚΟΔΕΙΛΟC ΠΑΡΔΑΛΙC is ΚΡΟΚΟΔΕΙΛΟΠΑΡΔΑΛΙC. The ingenious Dr Parsons, F. R. S. (*Philosoph. Trans.* No. 470.) has given us a most accurate figure, as well as a very curious dissertation upon the rhinoceros.

‡ In Sir Hans Sloane's and Dr Mead's curious collections, there are specimens of two of these horns being placed one above the other at a span's distance; the one upon the snout, the other nearer the forehead; to a species of which kind the *geminum cornu* of Martial (*Epig.* xxiv. *De spectaculis*) might probably relate.

The

corn's horn, is not the horn of a quadruped, but of the *nervahl*, a cetaceous fish), our commentators have, for the most part, taken it for the רֶעֶם, *reem*. And indeed, in justification of this interpretation, the rhinoceros, from the very make and structure of its body, appears to be the strongest of quadrupeds, the elephant not excepted; so that, in expressing the strength of Israel, Num. xxiii. 22. it is justly compared to the strength of the *reem*, or rhinoceros, or unicorn, as it is commonly translated. *Reem* then cannot be, as Schultens and others have interpreted it, the *oryx* or *bubalus*, or indeed any other species of the clean quadrupeds, which will by no means answer to this description of it.

We have nothing curious to offer with regard to the תִּפְפִּיעַ or the אַלַּיִנָּה, with a cub sucking it; if we except the roundness of the spots in the former, which are unquestionably the distinguishing marks of the panther, and not of the tiger, as it is here called.

The אַיִרָא is incorrectly given us for אַרְרָא; the *n* in this name, and also in the כֹּהֲנִיָּה, being put instead of the *r*; which however may shew how the *r* was pronounced before the letters *א* and *ר*.

By

The Ethiopian rhinoceros, which Pausanias (*In Bæoticis*) calls the Ethiopian bull, was of this kind. Εἶδον δὲ καὶ ταυρὸς τὰς τε Αἰθιοπίας, ὡς ἐπὶ τῷ εὐρεθόμενῳ ποταμῷ Ῥινοκορὸς, ὅτι σφῆτιν ἐπ' αὐτοῦ τὴν ῥινὴν ἐν ἑκάστῳ κέρατι καὶ ἄλλο ὑπὲρ αὐτοῦ ἡ μύξα. Yet the rhinoceros upon the medals of Domitian, the same we may suppose that was exhibited at the secular games in his times, appears with one horn only upon the snout, as in those which have been brought to us hither, at different times, from the East Indies.

By the figure and attitude, it appears to be the same creature (L), which the Ethiopians are shooting at in the upper part of the pavement. Now the lynx being generally received for the *don*, or *lupus cervarius* of the ancients, it can bear no affinity at all with this creature; which is much better designed for the wild-ass or *onager*; one of the noted animals of these countries.

The *καρο*, by the addition of a *ρ*; will be *καρρο*, the *lizard*; the figure agreeing, with propriety enough to the name. The *ἐνὺδαρις*, in like manner, is no other than *ἐνυαρις*, the *h* being redundant; and denotes the *lutra* or *otter*, or, as it is otherwise called, *the dog of the river*. They are two in number, holding each of them a fish in their mouths; agreeably to the character of that piscivorous animal. This was likewise one of those quadrupeds that were accounted sacred\* by the Egyptians.

The *χοιροποταμοί*, by exchanging the *ο* for an *ο*, will be *χοιροποταμοί*, or the *river hog*. This is a new name indeed, though we can hardly be mistaken in the interpretation of it, as the animals here exhibited are exactly of that species. In Dr Mead's curious collection of Bartoli's *drawings*, we see the same groupe of animals, with the appellation of *χοιροπιό-τα* annexed to it: and as this word seems to be related to, or a derivative from *χοῖρος* and *πιθηκος* or *πῆνης*, it should denote them to be *baboons*, *man-tigers*,  
orang-

\* Γινώσκαι δὲ καὶ ἑνὺδαρις ἐν τῇ ποταμῷ, τῆς ἰσῆς κήληται ἐν αὐτῇ.  
Herod. Eut. p. 131.

*orang-outangs*, or, according to the literal interpretation, *hog-monkeys*, or *hog-baboons*. But, besides the length and curled fashion of their tails, the very shape and attitude of the animals themselves shew them to be much nearer related (as it has been already observed) to the hog, than to the monkey kind, and therefore ΧΟΙΡΟΠΟΤΑΜΟΥ is rather to be received.

The ΑΓΓΕΛΑΡΟΥ likewise, from the similitude of the figure should have been written ΑΙΛΟΥΡΟΥ, i. e. *the cat*; which, being one of the sacred animals of Egypt, could not well be denied a place in this collection.

III. Though the names of some other of these animals are as well known in books of natural history, as those already mentioned, yet the animals themselves have not been so well described; they will require therefore some further illustration.

The ΚΡΟΚΟΔΕΙΛΟΣ ΠΑΡΑΛΛΙΟΣ then, or *the spotted lizard*, as it may be interpreted, might be intended for the *stellia* of the ancients, or the *warrat*, (vol. i. p. 325.) according to the present name.

The ΚΡΟΚΟΔΕΙΛΟΣ ΧΕΡΣΑΙΟΣ, or *land crocodile*, (so called in contradistinction, as it may be presumed, to the *river crocodile*, which was the ΚΡΟΚΟΔΕΙΛΟΣ by way of eminence), is the same species of lizard with the *εκρίγκος* \*. However the head is not here well expressed, being too round and large;

\* Σκυλος ὁ μὲν τις ἐστὶν Αἰγυπτίος, ὁ δὲ Ἰνδικός—ἵσ' δὲ κροκοδείλος χερσαίος ἰδιώτης, &c. Diosc. l. ii. c. 71. Raii Hist. Animal. p. 271.

large; whereas that of the *scinc's* is long, and rather more pointed, than in the other species of the lizard kind. Egypt has always abounded with the *scinc*; and to this day, several boxes of them, dried and prepared, are shipped off every year for Venice, as an ingredient in their *theriaca*.

The ΟΝΟΚΕΝΤΑΥΡΑ is much better delineated than the *προκοδοσλος χιρσαιος*, and may be called *the female ass-centaure*. Ælian\* is very copious in describing this imaginary creature, the only fictitious animal in this collection; which the LXX however have placed instead of *דובים*, or *the wild beasts of the islands*, as we translate it, Isa. xiii. 22. xxxiv. 14. &c.

The ΚΡΟΚΟΤΑΚ, or *crocota*, is a name as well known to the natural historians as the *σκηπτταυρος*; though the animal itself has not been so well and so particularly described. Ælian (l. vii. c. 22.) acquaints us, that it 'had the same art with the hyæna †, of learning the names of particular persons, and decoying them afterwards, by calling upon them by the same.' But he gives us no characteristics whereby the ΚΡΟΚΟΤΑΚ may be distinguished from other quadrupeds. We  
may

\* Ælian. Hist. Animal. l. xvii. c. 9. et l. vii. c. 32. Plin. l. viii. c. 21. & 30.

† This property (Plin. Hist. Nat. l. viii. c. 30.) is ascribed to the hyæna, viz. Sermonem humanum inter pastorum stabula assimulare, nominaque alicujus addiscere, quem evocatum foras lacerat.—Hujus generis coitu læna Æthiopica parit crocutam, similiter voces imitantem hominum pecorumque. Idem ibid. c. 21. dicit *crocotas* velut ex cane et lupo conceptus. Strab. l. xvi. p. 553.

may supply the deficiency therefore from this figure, which is all over spotted. The head is rather long, like the bear's, than short and round as in the cat kind. Agatharcides ascribes to it sharp claws and a fierce countenance\*. The ears of it are small, the body is short and well set, and appears to have either no tail at all, or else a very short one. These then are to be received as the characteristics of the κροκοτίας.

To this class we may join the ΚΑΙΝΓΙΑ, the same grammatical name with σφίγξ†. These have been commonly numbered among the imaginary beings, but appear here to be *cercopithec*i, or monkeys; as indeed some ancient authors‡ have described them. The prominence likewise that is said to be in their breasts or nipples, may perhaps be authorized from the lowest of them, which has its limbs the most displayed; for those of the other are folded up and collected together, as the habit and custom is of that antic animal.

#### IV. Among

\* Ἐστὶ μὲν ὀνομαζόμενος Κροκοτίας ὃς ὁ ἐκ λύκα καὶ κυνὸς συνίσταται, ἀμφὺν δὲ ἀγχιώτερον, καὶ πολλὰ βαρυτέρου, ἀπὸ τε τοῦ προσώπου καὶ τῶν ἀκρῶν ποδῶν. Agath. de Mar. rubr. p. 45. ed. Oxon,

† Αἱ σφίγξες, τὰ σφίγξια. Salmas. Plin. Exercit. in Solinum.

‡ Lynceas vulgo frequentes et *sphinges*, fusco pilo, *mammis* in pectore *geminis* Æthiopia generat. Plin. l. viii. c. 21. Inter simias habentur et *sphinges*, villosæ comis, *mammis* prominulis et profundis, dociles ad feritatis oblivionem. Solin. c. 27. Αἱ σφίγξες, καὶ κυνέκφθαλοι καὶ κηποὶ περιτριπνούνται εἰς τὴν Ἀλεξάνδρειαν ἐκ τῆς Τρωγλοδυτικῆς καὶ τῆς Αἰθιοπίας. Εἰσι δὲ αἱ μὲν Σφίγξες τὰς γεωγραφικαῖς παροιμίας. Πλὴν ὅτι πασαι δασεαὶ, καὶ ταῖς ψυχραῖς ἡμεροὶ καὶ πρῶοι καὶ πανουργίας κοινῶνται πλείους, διδασκαλίας τῆς μεθοδευτικῆς ἐπιποσοὶ ἀπτόνται ὥς τὴν ευρυμικρὴν ἢ παρὶ θαυμάζουσιν. Agatharcid. de Mare rubro, p. 43. edit. Ox. *Spinturnicia* (i. e. *sphinges*) omni deformitate ridicula. Amm. Marcell. l. xxi.

IV. Among such of these animals, whose names are either dubious or unknown, we may take notice of the  $\alpha\pi\rho\omicron\varsigma$ ; which notwithstanding the affinity of it to the Latin word *aper*, yet has no relation at all to the boar kind. Excepting the spots, it agrees in shape, habit of body; and all other circumstances, with the  $\kappa\rho\omicron\kappa\omicron\tau\alpha\varsigma$ . If we might presume that  $\alpha\pi\kappa\tau\omicron\varsigma$  was the true reading in the pavement, the figure will answer, with propriety enough, to the bear, one of the noted animals of this country.

The  $\chi\alpha\beta\omicron\chi\epsilon$  is another unknown name. The large quadruped to which it belongs, has the exact shape and habit of the camel. The ears likewise are erect, with a large tuft of hair growing betwixt them, as is common, though not peculiar indeed to this creature. The large bump too, which is usually placed upon the middle of the back, is here fixed nearer the shoulders. Yet, notwithstanding this mistake, *υαβους* may still be a derivative from *υβος*, the bump or bunch, one of the chief characteristics of the camel, and from whence it very properly received this name. The custom of carrying *treasures upon these bunches of camels*, is mentioned Isa. xxx. 6.

Below the *υαβους* is the  $\kappa\eta\mu\epsilon\eta$ , which is a beautiful little creature, with a shaggy neck, like the  $\kappa\alpha\lambda\lambda\iota\delta\gamma\epsilon$  \*; and shaped exactly like those monkeys that are commonly called marmosets. The

KHI-

\* *Efferocior cynocephalis natura; sicut mitissima satyris et sphingibus. Callitriches toto pene aspectu differunt, barba est in facie, cauda late fusa priori parte. Plin. l. viii. c. 54.*



ΚΗΠΕΝ therefore may be the Ethiopian monkey, called by the Hebrews (קִפּוֹ) *kouph*, and by the Greeks ΚΗΠΟΣ\*, ΚΗΦΟΣ, or ΚΕΙΠΟΣ, from whence the Latin name *cephus*†; with this difference only, that ΚΕΙΠΕΝ has here an heteroclite termination. For little regard, as we may perceive from the preceding names, has been paid either to the orthography, the number, or any other grammatical accuracies.

At a little distance from the ΚΗΠΕΝ is the ΖΙΟΙΤ, and near this again are the ΩΑΝΤΕC; appellations probably of Ethiopic extraction. With regard to the ΖΙΟΙΤ, it has all the appearance of a very fierce and rapacious animal. It seems to be howling, with the mouth half open. The jaws are long, and well armed with teeth. There is no small probability therefore, that it, was intended for the wolf, and consequently will be the same (by softening the letter Ζ by) with ΑΖΗΚ-ΗΤ, *azybyte*, or 'zibbt, the Ethiopic name plural of the *lupus*, or wolf.

We find the like analogy betwixt ΩΑΝΤΕC and the Ethiopic word ΑΖΗΗ *aankes* or *oanques*, as it may be differently pronounced. The ΩΑΝΤΕC then were (the Ethiopian) *civet cats*\*, as ΑΖΗΗ

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is

\* Κηπος· ζων ομοιον πιθηκω. Κειπον δι Βαβυλωνιοι οι κατα Μωφιν τιμωσιν. ισι δ' ο κειπος το μιν προσωπον οικως Σατυρω. τ' αλλα δη κυνης και αρκτι μεταξυ. Γινται δ' εν Αιθιοπια. Strab. l. xvii. p. 817. edit. Almclov.

† Pompeius Magnus misit ex Æthiopia, quas vocant *cephos*; quarum pedes posteriores pedibus humanis et cruribus; priores manibus fuere similes. Plin. Nat. Hist. l. viii. c. 19.

‡ *Felis Æthiopica*, s. animal *æibethicum*, s. *hyæna odorifera*, s. *civetta*.

is interpreted by Castel and Ludolfus. For greater differences than these are found in the derivatives of most languages. And, considering the nature and quality of the Greek and Ethiopic alphabets, and of their respective pronunciations, it cannot be expected, either that the same letters, or the same force or sound of any one given letter, word or appellation, should be exactly conveyed from one of these languages into the other.

So much then with regard to the animals of this pavement. If botany is regarded, we have here the figures of the palm-tree; both of the common species (A), that grows up in one stem, and of the *doom* (B), or *κυκιοφάρον*, that was forked. The stately uprightness of the palm is finely alluded to, Jer. x. 5. We have the *musa* likewise (C), which is remarkably distinguished by large verdant leaves. The fruit of it is supposed by some commentators, to be the *dudaim* or mandrakes, (vol. ii. p. 148.) as others have taken the leaves for those, which our first parents used instead of aprons, or *girdles*, as it should be rather rendered, Gen. iii. 7.

The *lotus* (D), that extraordinary vegetable symbol in the Egyptian mythology, (vol. ii. p. 178.) is still more frequent than the palm-tree and the *musa*; and, as it is here represented, agrees in the rotundity of its leaf and rosaceous flower, with the *nymphæa aquatica*.

The large spreading tree (E), that presents itself so often to the eye, may be designed for the  
*sycamine,*

*sycamine*, or *sycomore*, one of the common timber trees, not only of Egypt, but also of the Holy Land \*. The mummy chests, the sacred boxes, the *παραδωματα*, the models of ships, and a variety of other curiosities found in the catacombs, are all of them, as I have before observed, made out of this wood. And further, as the grain and texture of it is remarkably coarse and spongy, it could not therefore stand in the least competition (Isa. ix. 10. †) with the cedar, for beauty and ornament. The sycomore, from budding very late in the spring, is called *arborum sapientissima*; and from having a larger and more extensive root than most other trees, it is alluded to as the most difficult to be plucked up, Luke xvii. 6. The mulberry trees that are said, Psal. lxxviii. 48. to have been destroyed by the frost, should be rather the sycomore tree, סחמורש, as the word is.

Above the sycomores, within the precincts probably of Ethiopia, there is another large shady tree (F), distinguished by two yellowish clusters; as they seem to be, of flowers; and by the κηπεν, which is running upon one of the branches. This then may be the *cassia fistula* ‡, whose flowers

\* Συκομαρον, ενιοι δε και τυτο Συκαμινον λεγουσι, καλεσται δε και ο απ' αυτης καρπος εσφοδρον, δια το ατονον της γινωσκης. Diosc. l. i. c. 182. or *sycamine*, סחמורש, *sicatum*. Psal. lxxviii. 47. 1 Kings x. 27. 1 Chron. xxvii. 28. Amos vii. 14. Luke xvii. 6. xix. 4.

† The sycomores are cut down, but we will change them into cedars.

‡ *Cassia fistula* ab Arabibus inventa, et a recentioribus Græcis, ut Actuário κασσια μελαινα nominatur. Fabam Indicam veterum, ut Aristobuli, Valerius Cordus credidit. Siliquam Ægyptiam Theophrasti

flowers are of this colour, grow in this fashion, and yield a most delightful fragrance.

The *COINRIA* display themselves upon another large tree, of a less shady quality, and with boughs more open and diffused. These circumstances agree very well with the *azedarach*, (not much different from *אזרע*, *ezrach*, or *the bay tree*, as we render it, Psal. xxxvii. 35.) another noted tree of these countries; whose commoner name is *ailah* or *eleah*, the same with the Hebrew *אלה*, *the oak, the elm, the lime, &c.* as it is differently rendered, Josh. xxiv. 21. Isa. vi. 13. Ezek. vi. 13. *Collectan. II. Phytogr. No. 31.*

The banks of the Nile are every where adorned with several tufts and ranges of reeds, flags, and bulrushes. Among the reeds, the emblem of Egypt, (2 Kings xviii. 21. Ezek. xxix. 6.) we are to look for the *calamus scriptorius*, the *קנה*, (Isa. xliii. 24. Jer. vi. 20.) or *calamus aromaticus*, or *sweet calamus*, Exod. xxx. 23. and the *arundo saccharifera*. As most of these plants appear in spike or flower, they might thereby denote the latter end of the summer, the beginning of the autumnal season, or perhaps the particular time when Alexander made the conquest of Egypt. The clusters of dates that hang down from one of the palm trees, the bunches likewise of grapes that adorn the lower bower (C), may equally typify

Theophrasti hist. 18. nonnulli censent. C. Bauh. Pin. p. 403. Being originally an Ethiopian plant, it might not have fallen under the cognizance of Theophrastus, as it was not known in Egypt at that time.

fy the same season. Neither should we leave the bower, thus occasionally mentioned, till we have admired the variety of climbers that shelter it from the sun. Such are the gourd (the *kikaion* or \**kikoeon*, קיקיון, as it bids the fairest to be, in the history of the prophet Jonas), the *balsamines*, the climbing *apocynums*, &c. all which I have seen flourishing in Egypt, at the time of the year, with great beauty.

As to the flags and bulrushes (ג), they are often mentioned; particularly Exod. ii. 4. where we learn, that *the mother of Moses, when she could no longer hide him, took for him an ark of bulrushes, [or papyrus, as נדנ is frequently rendered], and daubed it with slime and with pitch, and put the child therein, and laid it in the flags (ג, suph, juncus) by the river's brink.* The vessels of bulrushes, that are mentioned both in sacred and profane history †, were no other than larger fa-  
brics

\* Some authors make the *kikaion* to be the same with the Egyptian *kik* or *kiki*, from whence was drawn *the oil of kiki*, mentioned by Diodorus, l. i. c. 34. This was the *zeorav* of the Greeks, the *elkaroa* of the Arabians; the same with the *ricinus*, or *palma Christi*, which is a spongy quick-growing tree, well known in these parts, (vid. Ol. Clusii Hierobotanicon, p. 273.) though the oil which is used at present, and perhaps has been from time immemorial, for lamps and such like purposes, is expressed from hemp or rape seed, whereof they have annual crops; whereas the *ricinus* is infinitely rarer, and the fruit of it consequently could not supply the demands of this country. The Egyptians are said to be the inventors of lamps, before which they used torches of pine-wood. Clem. Alex. Strom. 1.

† Isa. xviii. 2. Pliny (l. vi. c. 22.) takes notice of the *naves papyraceas, armamentaque Nili*; and (l. xiii. c. 11.) he observes, *ex ipsa quidem papyro navigia texunt.* Herodotus and Diodorus Siculus

bricks of this kind ; which, from the late introduction of plank, and stronger materials, are now laid aside.

The short, and, it must be confessed, imperfect and conjectural account that is here given of this very instructive piece of antiquity, will, I hope, excite some curious person to treat and consider it with greater erudition, and more copious annotations. The subject very well deserves it, as all Egypt, and no small portion of Ethiopia, are here most beautifully depicted in miniature, and elegantly contracted into one view. And it will add very much to the credit and authority of the representations here given us, that notwithstanding the artist had so much room for indulging his fancy and imagination ; yet, unless it be the *ONOKENTAIPIA*, we are entertained with no other object that appears to be trifling, extravagant, or improbable. Neither will there be much occasion to apologize even for this figure ; in as much as, several centuries after this pavement was finished, Ælian himself, (lib. xvii. c. 3.) that great searcher into nature, seems to give way to the common fame, and to believe the existence of such a creature.

## CHAP.

Siculus have recorded the same. And, among the poets, Lucan :

*Conseritur bibula Memphis cymba papyrus.*

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### C H A P T E R   I I I .

*The Natural History of Arabia; particularly of Arabia Petræa, Mount Sinai, &c. and of the Ostrich,*

**I**F we leave Palæstine and Egypt behind us, and pursue our physical observations into the Land of Edom, we shall be presented with a variety of prospects, quite different from those we have lately met with in the land of Canaan, or in the field of Zoan. For we cannot here be entertained with *pastures clothed with flocks*, or with *vallies standing thick with corn*, or with *brooks of waters*, or *fountains or depths, that spring out of the vallies and hills*, Deut. viii. 7. Here is *no place of seed, or of figs, or of vines, or pomegranates*, Num. xx. 5. but the whole is *an evil place*, a lonesome desolate wilderness, no otherwise diversified than by plains covered with sand, and by mountains made up of naked rocks and precipices. *I hated Esau*, (says the prophet, Mal. i. 3.) *and laid his mountains and his heritage waste for the dragons of the wilderness.*

Neither is this country ever, unless sometimes at the equinoxes, refreshed with rain; but the few hardy vegetables which it produces, are  
stunted

stunted by a perpetual drought; and the nourishment which the dews contribute to them in the night, is sufficiently impaired by the powerful heat of the sun in the day. The intenseness of the cold and heat, at these respective times, very emphatically accounts for the provision of Providence, in spreading out for the Israelites *a cloud to be a covering by day, and fire (like a harmless sun, Wisd. xviii. 3.) to give both light and heat in the night season, Pſal. cv. 39.*

But, to be more particular; when I travelled in this country, during the months of September and October (1721), the atmosphere was perfectly clear and serene all the way from Kairo to Corondel; but from thence to Mount Sinai, the tops of the mountains, which lay on each side of us in the midland road, would be now and then capped with clouds, and sometimes continue so for the whole day. This disposition of the air was succeeded soon after by a violent tempest; when the whole heavens were loaded with clouds, which discharged themselves, almost during a whole night, in extraordinary thunderings, lightnings and rain. But these phenomena are not frequent, rarely falling out, as the monks informed me, (and who have reason to remember them), above once in two or three years. And indeed, to make a short digression, it is very fortunate for the fraternity of St Catharine's that they happen so seldom. For as the torrents consequent thereupon wash down an immense quantity of stone and gravel from the mountains, the large  
capacious



capacious cistern below, which receives its water from the convent, and liberally refreshes *there* with the Arabs and their cattle, is usually filled up thereby. This the monks are immediately obliged to cleanse, as it happened when I was there, ten or a dozen of them being let down every day, and drawn up again at night, till the work was finished. And to shew the ingratitude of these their rapacious neighbours, for whose conveniency all this labour had been bestowed, I must mention likewise, that after these poor lay-brothers had done all to their satisfaction, they would not suffer them to return, without paying each of them a *sultanie*, and a quantity of provisions besides, for the permission.

Except at such extraordinary conjunctures, as were just now taken notice of, there is the same uniform course of weather throughout the whole year; the sky being usually clear, and the winds blowing briskly in the day and ceasing in the night. Of these, the south winds are the gentlest, though those in other directions are the most frequent; which, by blowing over a vast tract of these deserts, and skimming away the sandy surface along with them, leave exposed several putrified trunks and branches of trees, make continual encroachments upon the sea, and occasion no less alterations in the surface of the continent. For to these violent winds, we may attribute the many billows and mountains of sand, which we every where meet with; the sand supplying the place of water; or, as this phenome-

non is beautifully described by P. Mela, l. i. c. 8. 'Auster arenas, quasi maria, agens siccis sævit fluctibus.' For the same cause likewise, not only the harbour of Suez is entirely filled up, but the very channel of the sea, which extends itself two or three miles further to the northward, (as it once may be supposed to have reached even as far as Adjeroute, or Heroopolis), is now dry at half ebb, though the tide rises here near six feet.

Where any part of these deserts is sandy and level, the horizon is as fit for astronomical observations as the sea itself; and *syrtidos arva*, an expression of Lucan's, may receive no small illustration from this phenomenon, and appears, at a small distance, to be no less a collection of water \*. It was likewise no less surprising to see in what an extraordinary manner every object appeared to be magnified † within it; in so much, that a shrub might be taken for a tree, and a flock

\* The like observation is taken notice of by Diodorus Siculus, in his account of Africa, l. iii. p. 128. Dr Hyde also, in his annotations on Peritsol's *Itinerary*, p. 15. deduces the name of *Barca* and *Libya* from this phenomenon. Et quidem (ut denominationis causam et rationem exquiramus) dictum nomen *Birca*; הברקה, splendorem seu splendens regionem notat, cum ea regio radiis solaribus tam copiose collustretur, ut reflexum ab arenis lumen adeo intense fulgens, a longinquo spectantibus (ad instar corporis solaris) aquarum speciem referat; et hicce arenarum splendor et radiatio Arabibus dicitur *Seheráb*, i. e. *magic water*—*aque superficies*; seu *superficialis aquarum species*—Hinc etiam nominis *Alum* ratio peti potest; cum לביא contractum sit pro להביא a להב *flamma*, a fulvescentibus arenis ardore pene inflammatis.

†, Vid. supra, p. 133.

flock of birds (the *achbobbas* are the most frequent) for a caravan of camels. This seeming collection of water always advances about a quarter of a mile before us; whilst the intermediate space is in one continued glow, occasioned by the quivering undulating motion of that quick succession of vapours and exhalations, which are extracted by the powerful influence of the sun.

The same violent heat may be the reason likewise, why the carcasses of camels and other creatures, which lie exposed in these deserts, are quickly drained of that moisture, which would otherwise dispose them to putrefaction; and, being hereby put into a state of preservation\*, not much inferior to what is communicated by spices and bandages, they will continue a number of years without mouldering away. To the same cause also, succeeded afterwards by the coldness of the night, we may attribute the plentiful dews, and those thick offensive mists, one or other of which we had every night too sensible a proof of. The dews particularly, as we had the heavens only for our covering, would frequently wet us to the skin; but no sooner was the sun risen, and the atmosphere a little heated, than the mists were quickly dispersed, and the copious moisture, which the dews communicated to the sands, would be entirely evaporated.

Rills, or fountains, or ponds, or wells of water,  
are

\* See the account of the preserved bodies at Saibah, in the beginning of the dissertation concerning Ras Sem, vol. i. p. 284, &c.

are so rarely met with, that we may very well account for the strife and contention \* there was formerly about the latter. In† the midland road, betwixt Kairo and Mount Sinai, I do not remember to have heard or tasted of more than five such sources, which were all of them either brackish or sulphureous. Yet there are great amends made for this disagreeableness in taste, by the wholesome quality of the waters, which provoke an appetite, and are besides remarkably lenitive and diuretic. And to this it may be owing, that few persons are acquainted with sickness, during their travels through these lonesome, inhospitable, and sultry deserts.

The fountains called *Ain el Mousa*, are lukewarm and sulphureous, boiling up three or four inches above the surface, as if they were agitated below by some violent heat. The fountain, two leagues to the westward of Suez, where there are several large troughs for the convenience of watering cattle, is brackish; and therefore the inhabitants of that place are obliged to drink of the

\* ‘And Abraham reproved Abimelech, because of a well of water, which Abimelech’s servants had violently taken away,’ Gen. xxi. 25. ‘And the herdsmen of Gerar did strive with Isaac’s herdsmen, saying, The water is ours; and he called the name of the well, Esek (contention), because they strove with him,’ Gen. xxvi. 20.

† Anak’s memory likewise might be well transmitted to posterity for finding in this wilderness some source or collection of water, till then undiscovered, as הַיָּם (Gen. xxxvi. 24.) perhaps may be better rendered than *finding the mules*, which, in all probability, those earlier ages were not acquainted with. The first mention that is made of *mules* (פָּרָדִים), is in the time of David, as he having served them to ride upon before.

the *Ain el Mousa*, which lies about the same distance, on the other side of the Red Sea. The exchange indeed is not extraordinary, yet it is preferred in being more wholesome. The waters of *Hammam Pharaoune*, near Corondel, are excessively hot, and send off no small quantity of a sour vitriolic steam; our conductors affirming, that an egg might be boiled hard in one minute, and that it would be macerated by them in the next. But I had no opportunity of trying the experiment; the baths or hot waters themselves lying a great way within the rocks, with a narrow entrance leading unto them. The water of *Hammam Mousa*, among the wells of Elim, is moderately warm and sulphureous; but that of the wells themselves, which lie at a little distance, is brackish and of a crude digestion, creating perhaps those scrophulous tumours, that sallowness of complexion, and those obstructions in the bowels, which are too much complained of by the inhabitants of Tor, who drink them.

The brackish waters of Elim, and the sulphureous waters of *Ain el Mousa*, are situated upon level ground, at a great distance from any range of mountains. Those particularly of *Ain el Mousa*, cherish and refresh the highest part of an extensive plain. The throwing of themselves up therefore in *jet d'eaux*, is a circumstance the more extraordinary; and perhaps is no otherwise to be accounted for, than by deducing their origin from the great abyss. But the fountain within the convent of St Catharine; that of the Forty Martyrs,

tyrs, in the plain of Rephidim; and another, which we find in the valley of Hebron, near the half way from thence to the desert of Sin, are sources of excellent water; which our palates found to be the more delicious, as they had, for fifteen days before, been acquainted with what was entirely disagreeable. The fountain of St Catharine, after it has supplied the demands of the convent, is received without into a large basin, which, running over, forms a little rill. This was the *water*, (Exod. xxxii. 20.) or *the brook that descended out of the mount*, into which the *golden calf was cast, after it was ground to powder*.

Of the fixed and permanent fossils, there are several here which are not common in other places. Thus the *selenites* is observed to shoot itself, sometimes for the space of thirty or forty yards together, in a great variety of shapes and colours. If this is a sure characteristic, as some naturalists maintain, of a lead mine lying below it, Arabia Petræa must be well impregnated with this mineral. A beautiful kind of cawk, the *pseudo-fluor* of the naturalists, gives likewise a wonderful glaring to the rocks, and frequently distinguishes itself in large expansions, like the *selenites*. The marble, which is sometimes called *Thebaic*, from being dug in the mountains of that district, sometimes *granite*, from the number of little grains whereof it consists, is much more common than the *pseudo-fluor* and *selenites*. It appears to be a *congeries* of *cawky nodules*, of different

different shapes and sizes, beautifully united together, which, from the likeness they bear to a composition of mortar and gravel, might occasion several ingenious travellers to imagine Pompey's pillar, the obelisks at Heliopolis, Alexandria and Rome, with other the like extraordinary lumps of this sort of marble, to be factitious, and produced by fusion. That kind of it, which I saw in the neighbourhood of Mount Sinai, and in the midland road from thence to Corondel, is generally of a light grey colour, with little black spots interspersed; though, in some places I have seen it much blacker, and in others of a reddish complexion, like the marble of Syene, called by Pliny, (l. xxxvi. c. 8.) *pyrrhopacilon*, i. e. distinguished with a variety of red spots, of which the obelisks were usually made. Sometimes also the constituent particles were so small and well compacted, that the contexture was not inferior either to the ophiites or serpentine marble, or to porphyry. And out of this kind probably were hewn the two tables of testimony; tables of stone, as they are called, *written with the finger of God*; Exod. xxxi. 18. xxxiv. 1. &c. It has been already observed, (vol. ii. p. 109.) that what is called the *rock of flint*, Deut. viii. 15. may be more properly named, with several other sorts of granite marble here to be met with, *the rock of amethyst*, from their reddish or purple colour and complexion.

That part of Mount Sinai, which lies to the westward of the plain of Rephidim, and is called the mountain of St Catharine, consists of a hard reddish

reddish marble, like porphyry; but is distinguished from it by the representations of little trees and bushes, which are dispersed all over it. The naturalists call this sort of marble *embuscatum*, or bushy marble\*; and, for the same reason, Buxtorf† derives the name of Sinai, from the bush or *rubus* that was figured in the stones of it. It seems to be hitherto undecided, to what species of plants this bush is to be referred; yet, if these impressed figures are to instruct us, we may very justly rank it among the tamarisks, which, with the acacia, are the most common and flourishing trees of these deserts. I have seen some branches of this fossil tamarisk, if we may so call it, though it appears rather to be of a mineral nature, that were near half an inch in diameter. The constituent matter or substance of these fossils is not unlike the powder of lead-ore, though of less solidity, crumbling into dust by touching or rubbing it with our fingers.

The

\* *Embuscatum* ex monte Sinai [Hierosolymitano male additur] depromptum; quod albicans est [*nostrum rubescit*] ad flavedinem tendens; et quocunque modo secetur aut dividatur, in eo arbusta et frutices, colore nigricante, subtiliter a Natura depicti apparent. Si supra ignem ponatur, brevi evanescit pictura, &c. Ego Anglice *Boisage* sive *Bushy-marble of Hierusalem* nominarem. Charlt. Exercit. de fossil. p. 19.

† סיני *Sinai*, montis nomen, אֶרֶב, *rubus*, quod lapides inventi in eo figuratum in se habuerint *rubum*, ut scribunt commentatores in librum *More nebhuchim*, p. 1. c. 66. adeo ut etiam in fragmentis lapidum istorum, figuræ rubi apparuerint, quod se *ephodius*, alter istorum commentatorum, vidisse scribit. Buxtorf in voce אֶרֶב. *Horeb*, אֶרֶב, the other name by which this mountain is likewise known in Scripture, seems very justly to express the barren desolate condition of it, from אֶרֶב, *siccatus, vastatus, desolatus; in solitudinem redactus fuit; &c.*



The several strata in these and most of the other mountains, which I have seen in Arabia, are generally so many kinds of marble, cemented as it were together, by thin sparry sutures of various textures and colours. There are likewise a great many remarkable breaches in these strata, some of which lie twenty or thirty yards asunder, the divisions on each side corresponding, or, as we may call it, tallying exactly with each other, and leaving a deep valley in the midst. These are probably the effects of some violent earthquakes.

Between Kairo and Suez, we meet with an infinite number of flints and pebbles, all of them superior to the Florentine marble, and frequently equal to the Moca stone, in the variety of their figures and representations\*. But fossil shells, and other the like testimonies of the deluge, are very rare in the mountains near Sinai, the original *menstruum* perhaps of these marbles being too corrosive to preserve them. Yet at Corondel, where the rocks approach nearer to our free-stone, I found a few *chamæ* and *pectunculi*, and a curious *echinus* of the *discoide* kind, figured among the fossils, No. 40. The ruins of the small village at *Ain el Mousa*, and the several conveyances we have there for water, are all of them full of fossil shells. The old walls of Suez, and the remains that are left us of its harbour, are

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2 T

likewise

\* Prosp. Alpinus (Hist. Nat. Ægypt. c. vi. p. 147.) calls these pebbles *silices sylvisferæ*, in quibus lapidibus sylvæ, herbarum, fruticum, &c. pictæ imagines cernuntur.

likewise of the same materials ; all of them probably from the same quarry. Betwixt Suez and Kairo likewise, and all over the mountains of Libya, near Egypt, every little rising ground and hillock discovers great quantities of the *echini*, as well as of the *bivalve* and turbinated shells, most of which exactly correspond with their respective families, still preserved in the Red Sea. Betwixt Suez and Kairo, we meet with those petrified trunks and branches of trees that have been already spoken of, (vol i. p. 296, &c.)

There is no great variety of plants in these deserts. Those *acacias*\*, *agarolas*, *tamarisks*, *oleanders*, *laureolas*, *apocynums*, and the few other Arabian plants that are enumerated in the *Phytographia*, as they are generally indebted to some barren rocks, or to the sandy plains, for their support, so they are indebted to the nightly dews for their nourishment ; there being no soil, properly so called, in these parts of Arabia. The monks indeed of Sinai, in a long process of time, have covered over near four acres of these naked rocks, with the dung and sweepings of their convent, which produce as good cabbage, roots, salad,

\* The *acacia* being by much the largest, and the most common tree of these deserts, as it might likewise have been of the plains of Shittim over against Jericho, from whence it took its name, we have some reason to conjecture, that the shittim-wood, whereof the several utensils, &c. of the tabernacle, &c. (Exod. xxv. 10. 13. 23. &c.) were made, was the wood of the *acacia*. This tree abounds with flowers of a globular figure, and of an excellent smell ; which may further induce us to take it for the same with the *shittah tree*, which, in Isa. xli. 19. is joined with the myrtle, and other sweet-smelling plants.

lad, and all kinds of pot-herbs, as any soil and climate whatsoever. They have likewise raised olive, plum, almond, apple and pear trees, not only in great numbers, but of excellent kinds. The pears particularly, which are in shape like the Windsor, are in such esteem at Kairo, that there is a present of them sent every season to the bashaw, and persons of the first quality. Neither are the grapes inferior in size and flavour to any whatsoever. For we have a sufficient demonstration, in what this little garden produces, how far an indefatigable industry can prevail over nature; and that several places are capable of culture and improvement, which were intended by nature to be barren, and which the lazy and slothful would have always suffered to be so.

Yet the deficiencies in the several classes of the land plants, are amply made up in the marine botany\*; no place perhaps affording so great a variety as the port of Tor. In rowing gently over it, whilst the surface of the sea was calm, such a diversity of *madrepores*, *fucuses*, and other marine vegetables, presented themselves to the eye, that we could not forbear taking them, as Pliny† had done before us, for a forest under water. The branched *madrepores* particularly contributed very much to authorize the comparison; for we passed over several of them that were eight or ten feet high, growing sometimes  
pyra-

\* See a catalogue of these corals in the *Collectanea*, No. II.

† Plin. l. xiii. c. 25. Chrysost. ex Strab. Geogr. l. xvi. p. 213. edit. Huds.

pyramidical, like the cypress; at other times, they had their branches more open and diffused, like the oak; not to speak of others, which, like the creeping plants, spread themselves over the bottom of the sea.

To these species, which are branched, we may join the *fungi*, the *brain-stones*, the *astroite-madrepores*, with other *coralline* bodies, which frequently grow into masses of an extraordinary size; and serve, not only for lime, but also for the chief materials in the buildings of Tor. The *fungus*, properly so called, is always joined to the rock, by a seemingly small root, being the reverse of the land-mushroom, in having its gills placed upwards. This and the brain-stone are observed to preserve constantly a certain specific form; the other coralline bodies also have each of them their different star-like figures or asterisks impressed upon them, whereby they likewise may be particularly distinguished. But these only regard their surfaces; for, having not the least appearances of roots, as the fungus and the brain-stone have, they are to be considered as certain rude masses only of this coralline substance, which, at the several periods of their growth, mould themselves into the figures of the rocks, shells, and other matrices, that lie within the reach of their vegetation.

All these species are covered over with a thin glutinous substance or *pellicule*, as I shall call it; which is more thick and spongy near and upon the asterisks, than in any other part. For, if we  
may

may be allowed to offer a few conjectures concerning the method of their growth and vegetation, it is probable, that the first offices of it are performed from these asterisks; especially if those sets of little fibres, which belong to them, should prove to be, as in all appearance they are, so many little roots. Now these little roots, if carefully attended to, while the *madrepores* are under water, may be observed to wave and extend themselves like the little filaments of mint when it is preserved in glasses, or like the mouths or suckers of the sea-star, or like those of the small floating *polypus*, (vol. i. p. 348.) But the very moment they are exposed to the air, they become invisible, by a power which they have at that time of contracting themselves, and retiring within the cavities or furrows of their respective asterisks.

In the true *coral* and *lithophyta* (to hint something also of their history), the method is a little different. For these are not marked with asterisks, like the *madrepores*, but have their little roots issuing out of certain small protuberances, that are plentifully dispersed all over their *pellicules*; serving, as the asterisks do in the other class, for so many valves or cases, to defend and shut in their respective little roots. We may take notice further, that these protuberances are generally full of a milky clammy juice, perhaps just secreted by the little roots, which in a small time coagulates; then becomes like bees-wax, in colour and consistence; and afterwards, as I conjecture,

jecture, is assimilated into the substance of the coral or *lithophyton* itself.

Nature having not allowed these marine plants one large root, as it has done to the terrestrial, how wisely is that mechanism supplied by a number of little ones, which are distributed in so just a proportion all over them, that they are lodged thicker upon the branches, where the vegetation is principally carried on, than in the trunk, where it is more at a stand; the trunk being often found naked, and seldom increases in the same proportion with the branches? The terrestrial plants could not subsist without an apparatus of great and extensive roots; because they are not only to be thereby supported against the violence of the wind, but their food also is to be fetched at a great distance. Whereas the marine vegetables, as they are more securely placed, so they lie within a nearer reach of their food, growing as it were in the midst of plenty; and therefore an apparatus of the former kind must have been unnecessary either to nourish or support them. Though indeed, according to the late wonderful discoveries with relation to the *polypus*, all that I have said of these little roots, valves and asterisks, may be some time or other found to belong to animals of that class; and consequently, that corals, *madrepores*, and *lithophyta*, are to be no longer reckoned in the vegetable, but in the animal kingdom.

The *fuscus* mentioned, seem to have given the name of *סִיף*, *suph* or *souph*, to this *gulf* or *tongue*  
(Isa.

(Isa. xi. 15.) *of the Egyptian Sea*; which is otherwise called the Sea of Edom, and improperly the Red Sea, by taking Edom\* for an appellative. The word יָם is also rendered *flags*, by our translators, (Exod. ii. 8. and Isa. xix. 6.) and *juncus* or *juncetum* by Buxtorf. I no where observed any species of the flag-kind; but there are several thickets of *arundinaceous plants* at some small distances from the Red Sea, though never, as far as I perceived, either upon the immediate banks, or growing directly out of it. We have little reason therefore to imagine, that this sea should receive a name from a production, which does not properly belong to it. It has been thought more proper therefore to translate יָם סוּף, *yam suph*, *the sea of weeds*, or *the weedy sea*†, from the variety of *algæ* and *fuci*, and perhaps the *madrepores* and *coralline* substances just now described, which grow within its channel, and at low water particularly, after strong tides, winds, and currents, are left in great quantities upon the sea shore.

Though the marine botany is very entertaining,

\* Vid. Suid. in voce 'Ερυθρα. Nic. Fuller. Misc. sacra. l. iv. c. 20. Prid. Connect. vol. i. p. 15.

† However, it should not be omitted, that Lipenius furnisheth us with a very ingenious conjecture in supposing this, in contradistinction perhaps to the יָם הַגָּדוֹל, *Great Sea*, or *Mediterranean*, to be the same with a sea that is circumscribed by (visible) bounds on both sides. Dicitur mare Suph. Hebraice ex rad. סוּף *discere, finire, unde est nomen* יָם סוּף *finis seu extremitas*, Eccl. iii. 11. *Hinc mare Suph est, vi verbi, mare finitum, limitatum, terminis et littoribus circumseptum.* Vid. Lipenii Navigat. Salomonis Ophirit. illustrat. Witt. 1660. p. 286.

ing, yet there is an additional pleasure in observing the great variety of urchins, stars, and shells, which present themselves at the same time. The first are most of them beautiful and uncommon. We find some that are flat and unarmed, of the *pentaphylloid* kind; others that are oval, or else globular, very elegantly studded with little knobs, which support so many spires or prickles. This sort of armour is sometimes thicker than a swan's quill; smooth and pointed in some, but blunt, rough, and knobbed, like the *lapides Judaici*, in others.

The most curious star which I saw, made with its five rays (or fingers as we call them) a circumference of nine inches in diameter. It was convex above, guarded all over with knobs, like some of the *echini*; but the under side was flat and smoother, having a slit or furrow, capable of expanding or contracting itself, which run the whole length of each finger. For this part of the fish, when in the water, always lies open, and displays an infinite number of small filaments, not unlike in shape to what we commonly call the horns of snails. These are so many mouths, as in the circular *polypus* above mentioned, that are continually searching after nourishment; and as the coralline bodies, if they really are such and not animals, have been observed to be all root, the star may be said to be all mouth; each of the little filaments performing that office. By applying the hand to them, we quickly perceive the faculty they have of sucking like so many cupping-



cupping-glasses ; but no sooner is the fish removed into the air, than they let go their holds, and the furrow from whence they proceeded, which was before expanded, is now immediately shut up.

There would be no end of enumerating the great diversity of shells which adorn the banks, or lie in the shallows of the Red Sea ; for no further had we an opportunity to search it. The *concha Veneris* is seen in a great variety of spots and sizes ; whilst the turbinated and bivalve shells are not only common, and in a great luxuriance of shapes and colours, but are also sometimes so exceedingly capacious, that there have been found some *buccina* which were a foot and a half long, whilst some of the *bivalve* shells were as much or more in diameter. I have already observed, that the port of Tor has greatly contributed to the buildings of the adjacent village. But this is not the only conveniency and advantage which the inhabitants receive from it ; in as much as they are almost entirely nourished and sustained by that plenty of excellent fish which it affords them. Neither is this all ; for the very furniture and utensils of their houses are all fetched from the same plentiful magazine ; the *nautilus* serving them instead of a cup, the *buccinum* instead of a jar, and the *concha imbricata*, instead of a dish or platter to serve up their food.

The short stay which our conductors allowed us at Tor and Suez, would not give me an oppor-

tunity of making any further observations, either in the botany or zoology of the Red Sea. As we were likewise frequently obliged, for coolness, to travel in the night, several fossils, plants and animals, besides other curiosities, must have undoubtedly escaped my notice. Yet I should not omit observing, that we were now and then offended with several little swarms of locusts and hornets, both of them of an unusual size, though of the ordinary colours. Vipers, especially in the wilderness of Sin, which might very properly be called *the inheritance of dragons*, were very dangerous and troublesome; not only our camels, but the Arabs who attended them, running every moment the risk of being bitten. But the lizard kind, in their variety of spotted coverings, afforded us an amusement far more innocent and diverting. Near Kairo, there are several flocks of the *ach bobba* \*, the *percnopterus*, or *oripelargus* †, which, like the ravens about London, feed upon the carrion and nastiness that is thrown without the city. This the Arabs call *rachamah*, the same with רחם, Lev. xi. 18. and רחמה, Deut. xiv. 17. which is rendered in both places the *geer eagle* in our translation. The same  
bird

\* *Ach bobba*, in the Turkish language, signifies *white-father*; a name given it partly out of the reverence they have for it, partly from the colour of its plumage; though in the other respect it differs little from the stork, being black in several places. It is as big as a large capon, and exactly like the figure which Gesner (Liii. *De Avib.* p. 176.) hath given us of it.

\* Vid. Gesn. ut supra. Arist. Hist. Anim. l. ix. c. 32. Plin. l. x. c. 3.

bird likewise might be the Egyptian hawk, which Strabo describes, contrary to the usual qualities of birds of that class, to be of no great fierceness. Doves are known to frequent those mountainous districts where there is water, as the ostrich, which will be hereafter spoken of, delights chiefly in the plains; being the grand ranger and *ubiquitarian* of the deserts, from the Atlantic ocean to the very utmost skirts of Arabia, and perhaps far beyond it to the east. Hares, of the same white colour with those of the Alps, and other cold countries, have been seen by some travellers; the badger too, from the frequent mention that is made of their skins, (*Exod.* xxvi. 14. &c.) must have been likewise an inhabitant, though the antelope was the only quadruped, as the dove and the *ach bobba* were the only birds, which fell under my observation. For perhaps there are no places in the whole world that abound less with living creatures than these deserts; and indeed, where has nature made less provision for their sustenance? The quails must have been fed, as well as brought by a miracle, if they had continued alive with the Israelites; and might they not, without the like miracle, have died of thirst in the wilderness? We cannot therefore sufficiently admire the great care and wisdom of God, in providing the camel for the traffic and commerce of these and such like desolate countries. For, if these serviceable creatures were not able to subsist several days without water; or if they required a quantity of nourishment

ishment in proportion to their bulk, the travelling in these deserts would be either cumbersome and expensive, or altogether impracticable.

But something still would be wanting to the natural history of these deserts, without a more particular description, as I have promised, of the ostrich, called all over these countries *naamah*. For there are several curious circumstances, in the account we are to give of it, which few persons could ever have an opportunity of being acquainted with. Some of them likewise will be of no small consequence in illustrating the more difficult part of the description, which is given of it in the following verses of the thirty-ninth chapter of the book of Job.

Vér. 13. 'Gavest thou *the goodly wings unto the peacock, or wings and feathers unto the ostrich?*' Which may be rendered thus from the original, 'The wing of the ostrich is [*quivering* or] 'expanded \*; the very feathers and plumage of the stork.'

14. 'Which *leaveth* † [deposits or trusts] *her eggs*

\* *Expanded* or *quivering*. נעלמה *nael-esoh*, ala quæ exultare facta est. Radix *olas* propriè est σφαιδίζω, vibrantem motum edere, irrequieta jactatione agitari. Vid. p. 277. *Lib Jobi*, Schulzens edit. vir. cl. R. Grey, S. T. P.

† Which *leaveth*, תעזב *tazob*, mandat. Exquisite locatum illud *tazob*, relinquit, quod duplici potestate nunc auctum; prima deponendi, prout onus ponitur et traditur alteri portandum. Altera vis infert *derelictionem*, quam hic omittendam non esse, sequentia satis arguunt; etiamsi ista desertio non tam stricte sit sumenda, ut statim atque ova deposuerit, ea derelinquat; nam sat longum sæpe tempus incubat, quia et excludit haud raro ova;  
sed

‘ eggs in the earth, and warmeth them [viz. by incubation\*] in [the sand] dust.

15. ‘ And forgetteth that the foot may crush them, or that the wild beast may break them.

16. ‘ She is hardened against her young ones, as though they were not hers ; her labour is in vain without fear.

17. ‘ Because God hath deprived her of wisdom, neither hath he imparted to her understanding.

18. ‘ *What time she lifteth herself up on high,*’ or, as it may otherwise be translated, ‘ When she raiseth herself up to run away †, (viz. from her pursuers), *she scorneth [or laughs at] the horse and his rider.*’

In commenting therefore upon these texts, it may be observed, that when the ostrich is full grown, the neck, particularly of the male, which before

sed tamen tam trepida et stupida est natura, ut ad minimum strepitum fugiat, ovaque sua deserat, quæ deinceps præ vecordia invenire non valet. Id. p. 278.

\* Several natural historians, and among the rest, Mr Ray, probably by understanding *taxob* as of a total dereliction) have supposed the eggs of the ostrich to be hatched entirely by the sun ; (quæ in arena condita, solis duntaxat calore foveri dicuntur. Raii Synops. Av. p. 36. ;) whereas the original word תחמם, *tehammem*, signifies actively that *she heateth them*, viz. by incubation.

† *Quo tempore in altum se ad cursum incitat.* במרום, *bammorom*, in altum, vel ad staturam referre licet, vel ad edita clivorum, collium, &c. Arridet magis prius, quasi proceritas staturæ commendaretur, quum e nido suo exurgens, accedentibus venatoribus, in altum alas erigit, vel ipsa potius in altum attollitur, mole corporis et colli spatio, supra fidem eminens. Schult. ut supra, p. 279.

before was almost naked, is now very beautifully covered with red feathers. The plumage likewise upon the shoulders, the back, and some parts of the wings, from being hitherto of a dark greyish colour, becomes now as black as jet; whilst the rest of the feathers retain an exquisite whiteness. *They are*, as described at ver. 13. *the very feathers and plumage of the stork*; i.e. they consist of such black and white feathers as the stork, called from thence *πτελαργος*, is known to have. But the belly, the thighs, and the breast, do not partake of this covering; being usually naked, and, when touched, are of the same warmth as the flesh of quadrupeds.

Under the joint of the great pinion, and sometimes upon the lesser, there is a strong pointed excrescence, like a cock's spur, with which it is said to prick and stimulate itself; and thereby acquire fresh strength and vigour whenever it is pursued. But nature seems rather to have intended, that, in order to prevent the suffocating effects of too great a plethora, a loss of blood should be consequent thereupon, especially as the ostrich appears to be of a hot constitution, with lungs always confined, and consequently liable to be preternaturally inflamed upon these occasions.

When these birds are surprized, by coming suddenly upon them whilst they are feeding in some valley, or behind some rocky or sandy eminence in the deserts, they will not stay to be curiously viewed and examined. Neither are the  
Arabs

Arabs ever dextrous enough to overtake them, even when they are mounted upon their *jinse*, or horses (as they are called) of family\*. *They, when they raise themselves up for flight, (ver. 18.) laugh at the horse and his rider.* They afford him an opportunity only of admiring, at a distance, the extraordinary agility and the stateliness likewise of their motions, the richness of their plumage, and the great propriety there was of ascribing to them, (ver. 13.) *an expanded quivering wing.* Nothing certainly can be more beautiful and entertaining than such a sight; the wings, by their repeated, though unwearied vibrations, equally serving them for sails and oars; whilst their feet, no less assisting in conveying them out of sight, are no less insensible of fatigue.

By the repeated accounts which I have had from my conductors, as well as from Arabs of different places, I have been informed, that the ostrich lays from thirty to fifty eggs. Ælian† mentions more than eighty; but I never heard of so large a number. The first egg is deposited in the centre; the rest are placed as conveniently as possible, round about it. In this manner it is said to *lay*, deposit or trust, (ver. 14.) *her eggs in the earth, and to warm them in the sand, and forgetteth* (as they are not placed like those of some other

\* These horses are descended from such as were concerned in the *hagyra* or flight which Mahomet, together with Omar, Abu-becker, &c. made from Mecca to Medina. There is as exact an account taken and preserved of their pedigrees, as there is of the families of kings and princes in Europe.

† Hist. Animal. l. xiv. c. 7.

other birds, upon trees, or in the cliffs of rocks, &c.) *that the foot (of the traveller) may crush them, or that the wild beast may break them.*

Yet, notwithstanding the ample provision which is hereby made for a numerous offspring, scarce one quarter of these eggs are ever supposed to be hatched; and of those that are, no small share of the young ones may perish with hunger, from being left too early by their dams to shift for themselves. For in these, the most barren and desolate recesses of the Sahara, where the ostrich chuses to make her nest, it would not be enough to lay eggs and hatch them, unless some proper food was near at hand, and already prepared for their nourishment. And accordingly, we are not to consider this large collection of eggs as if they were all intended for a brood; they are, the greatest part of them, reserved for food \*, which the dam breaks and disposes of, according to the number and the cravings of her young ones.

But yet, for all this, a very little share of that ~~very~~, or *natural affection*, which so strongly exerts itself in most other creatures, is observable in the ostrich. For, upon the least distant noise, or trivial occasion, she forsakes her eggs or her young ones, to which perhaps she never returns; or, if she does, it may be too late, either to restore life to the one, or to preserve the lives of the other. Agreeably to this account, the Arabs meet sometimes with whole nests of these eggs undisturbed;

\* Vid. *Ælian. Hist. Animal.* l. iv. c. 37. Phile in *Iambis. Boch. Hieroz. par. post.* l. ii. c. 17.



ed ; some of which are sweet and good ; others are addle and corrupted ; others again have their young ones of different growths, according to the time, it may be presumed, they have been forsaken by the dam. They oftener meet a few of the little ones, no bigger than well-grown pullets, half starved ; straggling and moaning about, like so many distressed orphans, for their mother. And in this manner the ostrich may be said, ver. 16. *to be hardened against her young ones, as though they were not hers ; her labour* (in hatching and attending them so far) *being in vain, without fear*, or the least concern of what becomes of them afterwards. This want of affection is also recorded, Lam. iv. 3. *The daughter of my people, says the prophet, is cruel, like the ostriches in the wilderness.*

Neither is this the only reproach that may be due to the ostrich ; she is likewise inconsiderate and foolish in her private capacity, particularly in the choice of food, which is frequently highly detrimental and pernicious to it ; for she swallows every thing greedily and indiscriminately, whether it be pieces of rags, leather, wood, stone or iron. When I was at Oran, I saw one of these birds swallow, without any seeming uneasiness or inconveniency, several leaden bullets, as they were thrown upon the floor, scorching hot from the mould ; the inward coats of the *œsophagus* and stomach being probably better stocked with glands and juices, than in other animals with shorter necks. They are particularly fond of their

own excrement, which they greedily eat up as soon as it is voided. No less fond are they of the dung of hens and other poultry. It seems as if their optic as well as olfactory nerves were less adequate and conducive to their safety and preservation, than in other creatures. The divine Providence in this, no less than in other respects, (ver. 17.) *having deprived them of wisdom, neither hath it imparted to them understanding.*

Those parts of the Sahara, which these birds chiefly frequent, are destitute of all manner of food and herbage, except it be some few tufts of coarse grass, or else a few other solitary plants, of the *laureola*, *apocynum*, and some other kinds; each of which is equally destitute of nourishment, and, in the Psalmist's phrase, (cxxxix. 6.) *even withereth afore it be plucked up.* Yet these herbs, notwithstanding this dryness and want of moisture in their temperature, will sometimes have both their leaves and their stalks studded all over with a great variety of land snails, which may afford them some little refreshment. It is very probable likewise, that they may sometimes seize upon lizards, serpents, together with insects and reptiles of various kinds. Yet still, considering the great voracity and size of this camel-bird, it is wonderful, not only how the little ones, after they are weaned from the provisions I have mentioned, should be brought up and nourished, but even how those of fuller growth, and much better qualified to look out for themselves, are able to subsist.

Their

Their organs of digestion, and particularly the gizzards, which, by their strong friction, will wear away even iron itself, shew them indeed to be granivorous ; but yet they have scarce ever an opportunity to exercise them in this way, unless when they chance to stray (which is very seldom) towards those parts of the country which are sown and cultivated. For these, as they are much frequented by the Arabs, at the several seasons of grazing, plowing, and gathering in the harvest ; so they are little visited by, as indeed they would be an improper abode for, this shy timorous bird, *a lover (φίλος) of the deserts*. This last circumstance, in the behaviour of the ostrich, is frequently alluded to in the Holy Scriptures ; particularly Isa. xiii. 21. and xxxiv. 13. and xliii. 20. Jer. l. 39. where the word יענף, *jaanah*, instead of being rendered *the ostrich*, as it is rightly put in the margin, is called *the owl* ; a word used likewise instead of *jaanah*, or *the ostrich*, Lev. xi. 16. and Deut. xiv. 15.

Whilst I was abroad, I had several opportunities of amusing myself with the actions and behaviour of the ostrich. It was very diverting to observe, with what dexterity and equipoise of body it would play and frisk about on all occasions. In the heat of the day particularly, it would strut along the sunny side of the house with great majesty. It would be perpetually fanning and priding itself with its *quivering expanded wings* ; and seem, at every turn, to admire and be in love with its shadow. Even at other times,  
whether

whether walking about or resting itself upon the ground, the wings would continue these fanning vibrating motions, as if they were designed to mitigate and assuage that extraordinary heat, wherewith their bodies seem to be naturally affected.

Notwithstanding these birds appeared tame and tractable to such persons of the family as were more known and familiar to them, yet they were often very rude and fierce to strangers, especially the poorer sort, whom they would not only endeavour to push down by running furiously upon them, but would not cease to peck at them violently with their bills, and to strike at them with their feet, whereby they were frequently very mischievous. For the inward claw, or hoof rather, as we may call it, of this *avis bisulca*, being exceedingly strong pointed and angular, I once saw an unfortunate person, who had his belly ripped open by one of these strokes.

Whilst they are engaged in these combats and assaults, they sometimes make a fierce angry and hissing noise, with their throats inflated and their mouths open; at other times, when less resistance is made, they have a chuckling or cackling voice, as in the poultry-kind, and thereby seem to rejoice and laugh, as it were, at the timorousness of their adversary. But during the lonesome part of the night (as if their organs of voice had then attained a quite different tone), they often made a very doleful and hideous noise, which would sometimes be like the roaring of a lion;

lion ; at other times it would bear a nearer resemblance to the hoarser voices of other quadrupeds ; particularly of the bull and the ox. I have often heard them groan, as if they were in the greatest agonies ; an action beautifully alluded to by the prophet Micah, (i. 8.) where it is said, *I will make a mourning like the jaanah, or ostrich.* *Jaanah* therefore, and (רננים) *rinonem*, the names by which the ostrich is known in the Holy Scriptures may very properly be deduced from ענה, *onah*, and רנן, *ronan*, words which the *lexicographi* explain by *exclamare*, or *clamare fortiter*. For the noise made by the ostrich being loud and sonorous, *exclamare*, or *clamare fortiter*, may, with propriety enough, be attributed to it ; especially as those words do not seem to denote \* any certain or determined mode of voice or sound peculiar to any one particular species of animals, but such as may be applicable to them all, to birds as well as to quadrupeds and other creatures.

*The*

\* Vid. *Ælian. Hist. Anim.* l. v. c. 51. et l. vi. c. 19.

*The following CORRECTIONS are submitted to the  
Judgment of the Reader.*

VOL. I.--P. 91. l. 14. for *Saldis* r. *Saldæ*.

P. 219. l. 8. for *aquis regius* r. *aquæ regie*.

P. 239. l. 16. for *aquas Tacapitanas* r. *aquæ Tacapitanæ*.--In which passages, and elsewhere, the Author has, from the Itinerary, used the oblique case instead of the nominative, which is usually preserved invariably, when we write in English.

P. 372. l. 4. at *ancient fabrics* add the following note, which the Author, in transposing his text, seems to have forgotten--  
sc. *Ex sabulone, et calce, et favilla*. Vitruv. Arch. l. vii. c. 4.  
Plin. N. H. l. xxxvi. c. 25.

*COLLECTANEA:*

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OR A

COLLECTION OF SUCH PAPERS

AS SERVE

TO ILLUSTRATE SOME OF THE

*FOREGOING OBSERVATIONS.*









24. *Asteriscus* l.c.



3. *Acetosa* l.c.



59. *Chondrilla* l.c.



72. *Onyza* l.c.



20. *Atriplex* l.c.

## COLLECTANEA:

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### I.

#### *Specimen Phytographiæ Africanæ.*

1. **A**BSINTHIUM Santonicum Judaicum C. B. P. 139.—Sheah Arabum. Copiose crescit in Arabia et in desertis Numidiæ.
2. Acacia vera J. B. I. 429.—Cum unica fere arbor sit Arabiæ Petrææ, quæ conficiendis asseribus inservire possit, verisimile videtur esse Shittim S. SS.
3. Acetosa Ægyptia, roseo seminis involucro, folio lacero Lippi.
4. Acetosa minor, lobis multifidis Bocc. Mus.
5. Alchimilla Linariæ folio, calyce florum albo I. R. H. 509.
6. Alchimilla Linariæ folio, floribus et vasculis in foliorum alis sessilibus.—His notis differt a præcedenti specie, quæ flores fert versus ramulorum summitates, longioribus pediculis hærentes.
7. Alhenna Arabum.—Frutex est floribus parvis, tetrapetalis, candidis, racemosis, staminibus octo, binatim, in petalorum intervallis, nascentibus, et e calyce quadrifido exeuntibus, foliis myrtiformibus conjugatis, fructu sicco, quadriloculari, rarius triloculari, seminibus, Acetosæ instar, angulatis, Ligustrum Ægyptiacum latifolium C. B. P. 476. Cyprus Græcorum, Alcanna vel Henne Arabum, nunc Græcis Schenna, Rauwolf. et Lug. Append. Cyprus Plinii sive Alcanna Bell. Ep. 4. ad Clus.
8. Alkekengi fructu parvo, verticillato I. R. H. 151.
9. Alkekengi frutescens, foliis rotundis, arcte sibi invicem incumbentibus, floribus albis, calycibus apertioribus.
10. Alsine aquatica, Portulacæ folio hirsuto.
11. Alsine maritima, supina, foliis Chamæsyces I. R. H. App. 665. Franca maritima, quadrifolia, annua, supina, Chamæsyces folio et facie, flore ex albo purpurascente Michel. Nov. Gen. 23. —Flos in quinque petalla dividitur ad tubulum cohærentia; basi

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denuo petala separantur et arcte amplectuntur fructum oblongum, pentagonum, monangium, plurimis seminibus foetum. Calyx longus, striatus, quinquefidus est. Flores arcte geniculis ramulorum adnascuntur.

12. *Althæa humilis*, repens, foliis *Malvæ* vulgares, flore rubro.

13. *Alysson* foliis lanceolatis, confertis, argenteis, flosculis albis.

14. *Amaranthus spicatus*, Siculus, radice perenni Bocc. Rar. 16.

15. *Anagyris foetida* C. B. P. 391. I. R. H. 647.

16. *Apium procumbens*, crassiore folio.

17. *Apocynum erectum*, incanum, latifolium, Malabaricum, floribus ex albo, suave-purpurascentibus Par. Bat. 28. Boerh. Ind. Alt. 313.---Copiose crescit in vallibus prope montem Sinai.

18. *Apocynum frutescens*, folio subrotundo, minore, siliquis strictissimis.

19. *Aristolochia Cretica*, scandens, altissima, *Pistolochiæ* foliis Cor. 8. *Aristolochia clematidis* serpens C. B. P. 307.

20. *Asparagus sive Corruda*, spinis biuncialibus, binis.

21. *Asplenium sive Ceterach* J. B. III. 749.

22. *Aster conyzoides*, foliis angustis, crenatis.

23. *Asteriscus perennis*, foliis longis, angustis.

24. *Asteriscus annuus trianthophorus*, Craffas Arabibus dictus. ---Folia *Chamaemeli*. Calyx e squamis tenuibus, albo virentibus, constat. Semiflosculi sinuati sunt: Crenas laterales longiores, mediam breviorē habet. Suaviter olet.

25. *Astragaloides Lusitanica* I. R. H. 399. *Astragalus Boticus* Clus. H. CCXXXIII.---Foole el Haloufe (s. Faba Apri) Arabum.

26. *Astragalus Africanus luteus odoratus* Bot. Monsp. *Astragalus perennis* foliis hirsutis, caule recto aphylo, flore ochroleuco, odoratissimo, H. Ox. II. 203.---Caroube el Maizah (s. Siliqua Caprarum) Arabum.

27. *Astragalus tenuifolius*, flore sulphureo, siliquis tenuiter recurvis.

28. *Atriplex maritima*, Hispanica, frutescens et procumbens I. R. H. 505. Hort. Elth. 46. fig. 46.

29. *Atriplex maritima pumila*, Arabica, foliis, villosis, subrotundis.---Folia unguis equini figura.

30. *Atriplex olida*, maritima, pumila, procumbens.

31. Aze-

31. *Azedarach* Dod. Pempt. 848. I. R. H. 616. Eleah Arabum.
32. *Balsamita Chrysanthemi* segetum folio, disco amplo.
33. *Borrago* floribus albis, foliis longis, angustis.
34. *Bulbocastanum* tenuiter inciso folio Lusitanium Vir. Lus. I. R. H. 307.
35. *Bulbocodium crocifolium*, flore parvo, violaceo I. R. H. Cor. 50. *Sysirynchium Theophrasti* Col. Ec. I. 328.
36. *Bursa Pastoris* hirsuti, *Erucae* flore, nervo folii prominente.---Folia oblonga, serrata, caulem amplectentia. Siliquæ hirsutæ, interdum ex adverso positæ, brevibus pediculis in spicam digestæ, *Bursæ Pastoris* figura, sed majores et altius sinuatæ. Septum medium *Geranii* seminis instar exprorectum.
37. *Cakile maritima*, angustiore folio Cor. 49.
38. *Calcitrapa* flore sulphureo procumbens, caule non alato. *Jacea Cichorii* folio, flore luteo, capite spinoso Bocc. Rar. 15. *Jacea orientalis* spinosa, folio *Erysimi*, flore luteo Boerh. Ind. Alt. 141.---In junioribus capitulis, spinæ superiores reliquis longiores sunt, et castanei coloris.
39. *Calcitrapa laciniata*, multiflora, minimo flore, albicante Comm. Ac. R. Sc. Ann. 1718. n. 165. *Carduus orientalis* *Calcitrapæ* folio, flore minimo Cor. 31. *Jacea minor*, &c. Pluk. Alm. 192. Tab. 39. f. 4.
40. *Calcitrapoïdes Sphærocephalos*, *Erucae* folio, Comm. Ac. R. Sc. Ann. 1718. p. 168. n. 8. *Jacea Tingitana*, centauroides, &c. Pluk. Alm. 191. Tab. 38. f. 5.
41. *Calthoides* foliis oblongis, cæsiis, crassis.---Calycem habet simplicem, non squamosum, in quinque aut plures latas lacinias divisum. Semina papposa sunt et ovata. Rami in humum incumbunt.
42. *Campanula rotundifolia*, hirsuta, saxatilis, folio molli Bocc. App. ad Mus.
43. *Campanula* hirsuta, *Ocymi* folio; caulem ambiens, flore pendulo Bocc. Rar. 83. I. R. H. 112.
44. *Cannacorus latifolius*, vulgaris I. R. H. 367.
45. *Capparis Arabica*, fructu ovi magnitudine, semine piperis instar acri Bellon. Obs. l. ii. c. 60.---Nostra tricubitalis est. Folia habet glauca, crassa, succulenta, rotunda, uncialia. Fructus, quem vidi, pollicis fuit magnitudine, oblongus, cucumeris forma, quem Arabes appellant *Felfel Jibbel*, i. e. *Piper montanum*. Copiose crescit in via ad montem Sinai.
46. *Carlina* flore purpureo rubente, patulo I. R. H. 500. Comm. Ac. R. Sc. Ann. 1718. p. 173. n. 4.

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47. *Carlina acaulos*, flore specioso, purpureo, non radiato, radice gummifera, succo albo et rubro. Succo albo et rubro venenato. *Chamaeleon albus*, sive *ἰχθυόειος*; Dioscor. l. iii. c. 10. et l. vi. c. 21. Hujus radix *Addad* dicitur. Vid. Leo Descript. Afr. l. ix. cap. penult.

48. *Cassia fistula Alexandrina* C. B. P. 403.

49. *Caucalis Myrrhidis folio*, flore et fructu parvo.

50. *Cedrus folio Cupressi*, major, fructu flavescente C. B. P. 487.

51. *Centaurum majus laciniatum*, Africanum, H. R. Par. App. I. R. H. 444. *Rhaponticoides lutea*, altissima, laciniata, capite magno, Comm. Ac. R. Sc. Ann. 1718. p. 180. n. 30.

52. *Centaurium majus incanum*, humile, capite Pini, I. R. H. 449. *Rhaponticum humile*, capite magno Strobili, Comm. Ac. R. Sc. Ann. 1718. p. 176. n. 3.

53. *Chamaedryfolia tomentosa*, Mascatensis Pluk. Alm. p. 97. Tab. 275. f. 6.---In Numidia vidi sine flore. Folia digitis adhaerebant, Lappæ capitulorum instar. Calyx hexaphyllus. Semina oblonga, punctata, angulata, gossypio obvoluta.

54. *Chamaeleon Alpinus*, *Sonchi spinoso*, lucido folio, radice nigra, alato caule Bocc. Rar. 2. 148. Tab. 28. & 105. *Carduus Cirsoides nitido glauco folio*, capitulo singulari, Comm. Ac. R. Sc. Ann. 1718. n. 9.

55. *Chamaemelum montanum*, incanum *Absinthioides*, *Italicum* Barr. Obs. IIII. Ic. 457. Comm. Ac. R. Sc. Ann. 1720. p. 318. n. 14. *Leucanthemum Plinii Anguill.* 181.---Variat nostrum calyce villosio; rufescente, cum Italici calyx nigricet.

56. *Chamaemelum specioso flore*, radice longa, fervida.---*Pyrethrum vulgo*, et veteribus Arabibus *Guntuss* dicitur. Hujus radice magna quantitas Constantinopolim et Kairum transmittitur, et Saccharo condita in doloribus pectoris et dentium comeditur. Floris radius amplius est, subtus purpureus. Discus magnus, luteus, ad seminum maturitatem protuberans, squamis rigidis stipatus.

57. *Chamaemelum Lusitanicum latifolium* sive *Coronopi folio* Breyn. Cent. I. 149. f. 74. Comm. Ac. R. Sc. Ann. 1720. p. 318. n. 9. *Pellis pumila crenata*, *Agerati æmula*, crenis bicornibus, asperiusculis Pluk. Alm. 65. Tab. 17. f. 4.

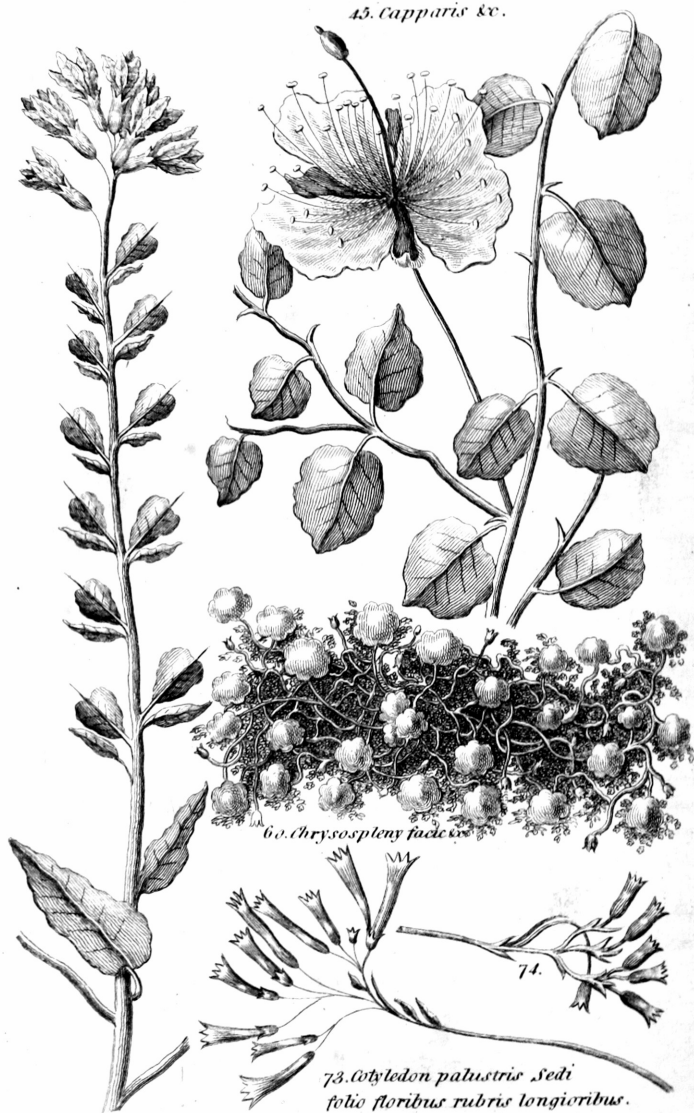
58. *Chamaeriphes* seu *Palma humilis*, spinosa, folio flabelliformi J. B. III. 37.---*Doom Arabum*. Ad altitudinem vidi septem aut octo pedum, ramis quotannis e stipite avulsis.

59. *Chondrilla minima*, repens, *Asplenii foliolis pilosis*.

60. *Chrysosplenii foliis* *Planta aquatica*, flore flavo, pentapetal.



45. *Capparis* &c.



36 *Bursa Pastoris hirsuta*  
Kruce flore nervo folii pro-  
minente.

73. *Cotyledon palustris* Sedi  
folio floribus rubris longioribus.



talo.---Habitus est hirsuto, conglomerata, Cuscutæ instar. Flores longis pediculis annexi sunt. Petala non fimbriata. Fructus mitræ episcopalis forma. Calyx integer arcte fructum amplectitur.

61. *Cinara acaulos*, Tunetana, *Tafsa* dicta, magno flore, suaviter olente, angustis Cinerariæ foliis, non spinosis Till. H. Pis. p. 41. F. 1. Tab. 20.---Radix optimi saporis est, et ab incolis comeditur.

62. *Cinara sylvestris*, non spinosa, flore cæruleo, foliis tenuius laciniatis.

63. *Cistus latifolius*, magno flore, Barr. Icon. 1315. Obs. 547.

64. *Clinopodium Lusitanicum*, spicatum et verticillatum I. R. H. 193. *Prunella Lusitanica* capite reticulato, folio Pedicularis Tournefortii H. Ox. III. 363. ---Bitumen redolet tota Planta, et flos magis similis videtur Moldavicæ quam Clinopodii. Mihi enim videbatur habere galeam quadrifidam, barbam bifidam.

65. Clymenum, quod *Vicia* maxima, Galegæ foliis majoribus, tetraphylla vel pentaphylla, binatim floribus e viridi flavescentibus H. Cath.

66. *Cnicus cæruleus*, humilis, montis Lupi H. L. B. I. R. H. 451. *Carduncellus* montis Lupi, Lob. Ic. 20. J. B. III. 92.---Radix dulcis et edulis est, *Gernashdee* dicta ab Arabibus.

67. *Colocynthis pumila*, Arabica, fructu Nucis Juglandis magnitudine, cortice lævi.

68. *Colocynthis pumila*, echinata, Arabica, striis duodecim luteis et viridibus variegata.

69. *Colocynthis pumila*, &c. 'Cucumis Africanus echinatus minor. *Hystrix vegetabilis* vulgo Harm. Par. B. 133. Descr. *Cucumis echinatus*, *Colocynthidis* folio, ibid. Ic.

70. *Coris cærulea maritima* C. B. P. Hanzærah Arabum, cuius decoctionem in Lue Venerea copiose sumunt.

71. *Coris cærulea maritima*, foliis brevioribus, magis confertis.

72. *Conyza tormentosa*, Polii foliis crenatis.---Planta hæc triuncialis est, suaveolens, floribus singularibus.

73. *Cotyledon palustris*, Sedi folio, floribus rubris, longioribus.---Flores oblongi sunt, Centaurii minoris facie, et in umbella quasi nascuntur.

74. *Cotyledon palustris*, Sedi folio, floribus luteis, brevioribus.

75. *Crambe spinosissima* Arabica, foliis longis, angustis, floribus in foliorum alis:

76. Cre-

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76. *Crepis Chondrillæ* folio **Comm. Ac. R. Sc. Ann. 1721. p. 195.**

77. *Cynoglossum Hispanicum*, *angustifolium*, flore obsoleto.  
---Variat flore candido.

78. *Cynoglossum Myosotidis* foliis incanis, flore parvo, ruberrimo.---Variat foliis et floribus majoribus.

79. *Cypressus fructu quadrivalvi*, foliis *Equiseti* instar articulatis.---Mediam videtur habere naturam inter *Arbores* et *Frutices*; nunquam enim vidi altiore *quindecim pedibus*. Folia læte vident, in quibus multæ squamulæ, ut in aliis speciebus, apparent; sed, *Equiseti* instar, crebris articulationibus sibi invicem pyxidatim conjunguntur.

80. *Cyperus humilis*, spicis brevibus, rotundis, conglomeratis *Buxbaum Cent. I. p. 34. Tab. 55. f. 1.*

81. *Cytisus* foliis subrotundis, glabris, floribus amplis glomeratis, pendulis.

82. *Cytisus* foliis oblongis, sessilibus, glabris, siliquis compressis, incanis.---Folia in summitatibus plerumque singularia sunt, et ipsæ summitates aculeatæ.

83. *Cytisus spinosus* *H. L. B. I. R. H. 648.*

84. Dens *Leonis* ramosus, maximus, foliis pilosis, sinuatis, pedibus. *Hieracium Platyneuron*, *Bursæ Pastoris* cæsura, piloso folio *H. Cath. Raj H. III. 145.*

85. *Digitalis Verbasci* folio, purpurea, minor, perennis, *Hispanica Barr. Ic. 1183. Obs. 187.*

86. *Drypis Theophrasti* *Anguill. Spina umbella* foliis vidua *C. B. P. 388.*

87. *Echinopus Orientalis*, *Acanthi aculeati* folio, capite magno spinoso cæruleo *Cor. 34. Comm. Ac. R. Sc. Ann. 1718. p. 151. n. 4.*

88. *Echium Scorpioides*, spicis longis, plerumque recurvis, floribus parvis, purpureis.

89. *Echium Tingitanum*, altissimum, flore variegato *H. Ox. III. 140. Pluk. Alm. 133.*

90. *Elychrysum Gnaphaloides*, floribus in strictiorem umbellam congestis.

91. *Eruca* flore albo, foliis sessilibus, *Bursæ Pastoris.*

92. *Eruca pumila*, floribus albis, foliis laciniatis.

93. *Eryngium amethystinum*, *Lusitanicum*, folio longiori *I. R. H. 327. Eryngium minus, montanum, flore cæruleo, pulchro Vir. Lusit.*

94. *Eryngium* foliis angustis, digitatis *Hellebori.*

95. *Eryn-*



98. *Faba*



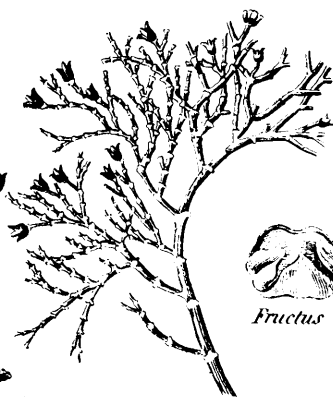
96. *Erysimum*



77. *Cynoglossum* &c



97. *Fagelia* &c



Fructus

79. *Cypripedium* &c



95. *Eryngium planum*, medium, foliis oblongis. Ab *Eryngio latifolio* plano C. B. P. 386.—Distinguitur foliis ad caulem longioribus, magis serratis, et magis spinosis, ab *Eryngio plano* minori C. B. P. Foliis amplioribus, in pediculum non contractis, capitulis minus frequentibus et spinosis differt.

96. *Erysimum incanum Arabicum*, Mari folio.

97. *Fagonia Arabica*, longissimis aculeis armata.—Folia angusta sunt, succulenta, et *Rorismarini* instar rugosa. Tribulus veterum ut et *Dardar* דרדר S. S. Olavi Celsii Hierobot.

98. *Fabago Arabica*, teretifolia, flore coccineo. *Fagonioides Memphitica*, virens obscurius, folio crassiori, bidigitato, tereti, fructu cylindraco, Lipp. MS. apud Phyt. Sherard. Ox.

99. *Fœniculum Lusitanicum* minimum acre I. R. H. 312.

100. *Ferrum equinum* pinus, siliqua in summitate singulari.

101. *Ferula Galbanifera* Lob. Ic. 779. I. R. H. 321.

102. *Filago supina*, capitulis rotundis, tomento obsitis Barr. Obs. 999. *Leontopodium* verius *Dioscoridis*, *Hispanicum* ejusdem, Icon. 296.

103. *Filicula Euphrasiæ* foliis conjugatis.

104. *Filicula ramosa*, *Lusitanica*, pinnulis ad *Ceterach* accedentibus I. R. H. 542. H. R. Monsy. 79. Ic. et Descript. *Filicula Smyrnæa*, pinnulis rotundis, minimis Pet. Gaz. T. 71. f. 3.

105. *Filix Lonchitidis* facie, foliis angustis, pellucidis, auriculatis.

106. *Fungus Mauritanicus*, verrucosus, ruber Pet. Gaz. Tab. 39. f. 8. *Cynomorion purpureum* officinarum Michelii, Nov. Gen. p. 17. Tab. 12. *Orobanchen Mauritanicam* appellavi, Obs. p. 264.—Tota planta est substantiæ rubræ fungosæ, glande sive capitulo florifero succo rubro scatente; floribus stamineis; constipatis, arcte semina dura, amplectentibus.

107. *Galeopsis Hispanica*, frutescens, *Teucrii* folio I. R. H. 168.—*Sepibus* conficiendis inservit prope *Algerium*; Per maturitatem, semina pulpa molli, nigra, baccæ instar, involuta sunt.

108. *Genista-Spartium Lusitanicum*, siliqua falcata I. R. H. 646.

109. *Genista-Spartium procumbens*, Germanico simile, foliis angustioribus.

110. *Geranium pusillum*, argenteum, *Heliotropii* minoris folio. —Folia, calyces et rostrum argentea sunt. Folia eleganter striata. Pediculi aphylli.

111. *Geranium supinum*, rotundo *Batrachoides* crasso, tomentoso folio, radice aefescente, longius radicata I. R. H. 269. Bocc. Mus. p. 2. Tab. 128. p. 160.

112. Glo-

112. *Globularia fruticosa*, Myrti folio, rigido, nunc tridentato, nunc plano. *Tesselgah* Arabum.

113. *Gramen alopecuroides* maximum J. B. Spica divisa Scheardi Scheuchz. *Agrost.* 247.

114. *Gramen avenaceum*, strigosius, utriculis lanugine albican-  
tibus. *A* Gramine avenae. utric. lanugine flavesc. I. R. H. 525.  
—Differt locustis minus sparsis, angustioribus, aristis tenuioribus,  
lanugine versus basin et ad semen candida. Porro locustæ hujus  
simplices sunt, et semen tantum unum lanuginosum, nudum con-  
tinent, cujus apex arista simplici terminatur, cum illius locustæ  
gemina contineant semina calyce s. squama involuta, quorum ari-  
sta e latere vel dorso calycis exit.

115. *Gramen Barcinonense* panicula densa, aurea I. R. H. 523.

116. *Gramen Brpmoides*, festucea tenuique panicula minus  
Barr. *Ic.* 76. 2.

117. *Gramen Cyperoides*, aquaticum, majus, panicula Cyperi  
longi, ex crassioribus glumis compacta, et brevibus petiolis donata  
Læl. Triumf. in Obs. J. Bapt. Fratris.

118. *Gramen dactylon*, spica gemina, triunciali, glabra et ari-  
stata Michel. Cat. H. Pis. *Gramen bicornæ* sive *Distachyophe-*  
*ron* Bocc. *Rar.* 20.

119. *Gramen humile*, capitulis glomeratis pungentibus.---Pal-  
mari est altitudine; caulibus tenuibus uno alterove folio glabro  
cinctis, quorum summitatibus capitulum nascitur rotundum, e  
pluribus spicis brevibus, e quatuor aut quinque glumarum pari-  
bus, aristis brevissimis, rigidis terminatis conflatum.

120. *Gramen panicula spicata*, villosum, locustis villosis  
Scheuchz. *Agrost.* 248.

121. *Gramen paniceum*, spica simplici aspera C. B. P. 8. Pa-  
nicum sylvestre dictum et Dens caninus I. J. B. II. 443.

122. *Gramen paniculatum*, locustis maximis, phœniceis, tremu-  
lis I. R. H. 523.

123. *Gramen paniculatum*, minus, locustis magnis, tremulis  
I. R. H. 523.

124. *Gramen pratense*, capillare, paniculatum, locustis parvis  
flavescentibus.---Folia ad radicem capillaria, conferta, ad cul-  
mum latiuscula, panicula speciosa, e locustis muticis e tribus aut  
quatuor squamarum ad margines argentearum paribus compo-  
sita.

125. *Gratiolæ affinis Hyssopifolia* major, Lusitanica Flor. Bat.  
69. Raii Hist. III. 526.

126. *Hedysarum clypeatum*, flore suaviter rubente Eyst. I.  
R.





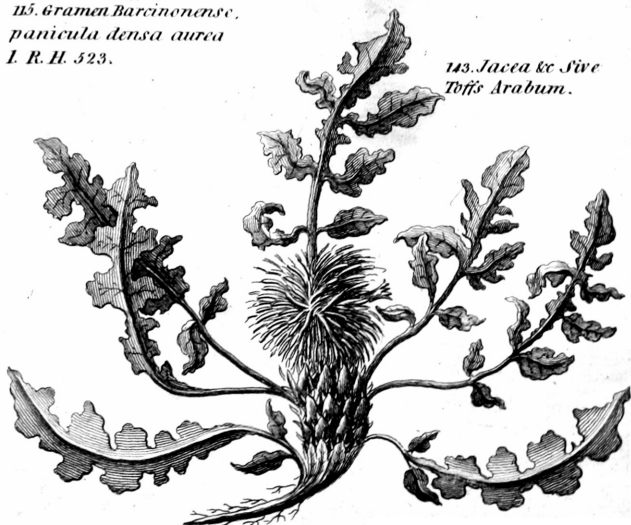
115. *Gramen Barcinonense*,  
panicula densa aurea  
L. R. H. 523.



99. *Feniculum* &c.



125. *Gratiola affinis*  
*Hyssopifolia major*  
Lusitanica FlorBat 69.



143. *Jacea* &c Sive  
Toff's Arabum.



R. H. 401.—*Sellah Arabum*, quo saginantur pecora per totam Africam.

127. *Hedysarum procumbens*, annuum, angustioribus foliis. *Onobrychis major*, humi prostrata, longulo, cordato foliolo, floribus rubris clypeatis, articulatis, siliquis sparsis H. Cath. Raii Hist. III. 457.

128. *Helianthemum Halimi minoris folio* Barr. Obs. 527. Ic. 287.

129. *Helianthemum luteum*, *Thymi durioris folio* Barr. Obs. 521. Ic. 441.

130. *Helianthemum Orientale*, frutescens, foliis Oleæ, flore luteo Sher. Boerh. Ind. Alt. 276.

131. *Helianthemum supinum*, *Polygoni folio hispido et glutinoso*.

132. *Heliotropii facie* Planta, lanuginosa, ferruginea, pediculis singularibus.—Folia habet *Heliotropii minoris*, crassa, villosa; calyces speciosos, multifidos; semina quaternâ, nuda, ovata, nigerima. Florém non vidi.

133. *Helitropium majus autumnale*, Jarmini odore I. R. H. 139.

134. *Hesperis hirsuta*, lutea, *Bellidis folio dentato*.—Similis est *Barbareæ murali* J. B. Sed folia pediculis ad caulem longioribus hærent, et flores lutei sunt rariores.

135. *Hesperis incana*, aspera, foliis strictissimis.

136. *Hesperis maritima*, perfoliata, *Bellidis folio*, glabro.—Non est eadem planta cum *Hesperide maritima*, perfoliata, parvo flore cæruleo, Pluk. Alm. 183.—Sed differt ab ea foliis brevioribus, glabris, succulentis, minus dentatis, flore majore, simili *Hesperidis maritimæ supinæ* exiguæ, I. R. H. 223.—A qua foliis caulem amplexantibus, obtusioribus et glabris distinguitur.

137. *Hieracium angustifolium*, parce dentatum, floribus in extremitatibus caulium singularibus.

138. *Hieracium speciosum*, squamoso calyce, *Lycopi folio* crasso, subtile incano.

139. *Hyacinthus obsolètiór Hispanicus serotinus* Clus. H. 177.

140. *Hypecoön Orientale Fumaricæ folio* Cor. 17.

141. *Hypecoön tenuiore folio* I. R. H. 230.

142. *Hypericum sive Androsæmum magnum Canariense*, ramosum, copiosis floribus, fruticosum Pluk. Alm. 189. Tab. 302. f. 1.

143. *Jacea acaulos lutea*, *Erucae folio*, squamarum ciliis candidis.—Radix dulcis, esculenta est, et ab Arabibus Toffs dicitur.

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144. *Jacea purpurea*, *Attractylidis* facie.--Hujusce Plantæ squamæ unicuspides sunt, ciliis ad marginem brevioribus.

145. *Jasminoides aculeatum* *Polygoni* folio, floribus parvis albidis.--Frutescit sarmentis longis, tenuibus propendentibus. Spinæ tenues, cortex ramorum incanus tenuique villo obsitus.

146. *Ilex aculeata*, *cocciglandifera* C. B. P. 425. I. R. H. 583.

147. *Juniperus major*, bacca cærulea C. B. 489. I. R. H. 589.

148. *Kali spinosum*, foliis crassioribus et brevioribus I. R. H. 247. Pluk. Alm. 202.

149. *Kali membranaceum*, foliis angustis conjugatis. Faciem habet *Kali* foliis angustioribus spinosis I. R. H. 247.--Sed folia semper ex adverso nascuntur, et semina illius carent foliis membranaceis.

150. *Ketmia Ægyptiaca*, *Vitis* folio, parvo flore I. R. H. 100. Bamia J. B. II. 959.

151. *Ketmia vesicaria* *Africana*, flore amplo, purpureo.--A *Ketmia versic. Afric.* *Tournefortii* differt foliorum segmentis longioribus; frequentius serratis; calycis segmentis angustioribus et longioribus; flore ampliori, toto purpureo.

152. *Lacryma Jobi* latiore folio I. R. H. 532.

153. *Lathyrus sativus*, flore et fructu minore sive *Kersailah* *Arabum*.--Faciem habet *Lathyri*, qui *αμφικαρπος* *Morisoni* dicitur, sed ad altitudinem quinque aut sex pedum crescit.

154. *Leucoium sylvestre*, latifolium flosculo, albido, parvo Raii Hist. I. 786.

155. *Limonium* caulibus alatis, *Asplenii* foliis, minus asperis, calycibus acutioribus, flavescentibus--El Khaddah *Arabum*.

156. *Limonium* caulibus alatis, foliis minus sinuosis, calycibus ex viridi cæruleis.

157. *Limonium peregrinum* *Asplenii* foliis C. B. P. 192. I. R. H. 342. *Limonium pulchrum* *Rauwolfii* Park. Th. 1235.--Variat nostrum ab hac *Rauwolfiana* specie, quod tota facie nigricet, et hirsutius sit, cum illa rufescat, cum calicibus cæruleis pallidioribus.

158. *Limonium minus*, obtuso folio, viminibus foliatis Barr. Ic. 806. Obs. 690. *Limonium minus* J. B. III. App. 877.

159. *Limonium* foliis *Halimi* Bross. I. R. H. 340.

160. *Limonium galliferum*, foliis cylindraceis.--Florem habet pulchrum, ruberrimum. Folia incana, quasi *Saccharo* incrustata. Gallæ ovales caulibus adnascuntur, non uno, sed plurimis foraminibus pertusæ.

161. Li-

161. *Linaria* foliis subrotundis, floribus e foliorum alis nascentibus.---Rami plerumque uno versu dispositi sunt.

162. *Linaria Myrsinites*, flore luteo, rictu purpureo. Est *Linaria Myrsinites*, triphylla, flore candide sulphureo, rictu croceo, brachiata H. Cath.---Nostra habet folia plerumque bina ex adverso posita; florem luteum; rictum purpureum.

163. *Linaria saxatilis*, Serpilli folio I. R. H. 169.

164. *Linaria Sicula multicaulis*, folio Molluginis Bocc. Rar. 38.

165. *Linaria Siculæ accedens*, Molluginis folio breviori.

166. *Linaria triphylla*, exigua, calcari prælongo.

167. *Linum maximum Africanum*, flore cæruleo Volk. Fl. Nov. *Linum sativum*, latifolium, Africanum, fructu majore I. R. H. 339.

168. *Lotus Græca*, maritima, folio glauco et velut argenteo Cor. 27.

169. *Lotus humilis*, siliqua falcata, e foliorum alis singulari.

170. *Lotus pentaphyllos*, siliqua cornuta C. B. P. 332. *Tri-folium* sive *Lotus Hierazune*, edulis, siliquosa J. B. II. 365.

171. *Lotus villosa*, altissima, flore glomerato I. R. H. 403.

172. *Lunaria fruticosa*, perennis, incana, Leucoii folio Cor. 15. ---In Arabia inveni.

173. *Lupinus lanuginosus*, latifolius, humilis, flore cæruleo purpurascente, stoloniferus H. Cath.---Tota planta est ferruginei coloris.

174. *Lychnis supina*, pumila, *Bellidis* foliis crassis, flore bifido, purpureo, calyce striato, turgido Raii Hist. III. 481.

175. *Lychnis sylvestris angustifolia*, calyculis turgidis, striatis C. B. P. 205.

176. *Lychnis sylvestris*, flosculo rubro, vix conspicuo Grisl. Vir. Lusit. *Viscago Lusitanica*, flore rubello, vix conspicuo H. Elth. p. 433. f. 406.

177. *Lysimachia lutea humilis*, *Polygalæ* folio.

178. *Medica magno fructu*, aculeis sursum et deorsum tendentibus I. R. H. 411.

179. *Medica marina* Lob. Ic. 38.---Hæ *Medicæ speciosiores* sunt ex aliis plurimis, quæ in Africa sponte nascuntur.

180. *Melongena Aristolochiæ* foliis, fructu longo, violaceo.---Flores purpurei sunt, stellatim divisi, et minores quam in aliis speciebus, quæ in Africa coluntur.

181. *Mesembrianthemum perfoliatum*, foliis exiguis, monacanthis.---Similis est Planta specimini Plantæ Siccæ *Mesembrianthemum*

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mi perfoliati foliis minoribus, diacanthis Hort. Elth.—Sed tota pallidior est, foliis paulo brevioribus et confertioribus, rectis, non reflexis, illius instar. Cæterum folio triquetra sunt, apice spinoso terminata. Non mihi contigit florem videre.

182. *Musa fructu cucumerino*, longiori Plum. 24. Mauz, *Musa Alp. Ægypt.* 78, 79, 80.

183. *Muscus ceranoides Palmensis*, comis digitatis, Orchili (*Argol*) dictus Mus. Pet. 436. *Gazoph. Nat.* II. Tab. 7. f. 12. *Fucus capillaris tinctorius* J. B. III. 796.

184. *Muscus terrestris Lusitanicus* Clus. Hist. CCXLIX.

185. *Myrrhis annua*, alba, hirsuta, nodosa, *Pastinacæ sylvestris* foliis candicante Hort. Cath. Raij Hist. III. 254.

186. *Myrtus latifolia Bætica* 1. vel foliis laurinis C. B. P. 460. I. R. H. 640.—Copiose crescit in dumetis, cum aliis speciebus, quæ folia habent angustiora.

187. *Nasturtium Alpinum*, *Bellidis* folio, majus C. B. P. 105. Prodr. 46.—Non est *Nasturtii* Species, pertinet enim ad Plantas siliquosas.

188. *Nerium floribus rubescentibus* C. B. P. 464. *Oleander*, *Laurus rosea* Lob. Ic. 364. *Diffrah Arabum*.

189. *Oenanthe aquatica*, tenuifolia, major, bulbulis radicum longissimis Cat. Pl. Agr. Flor. Hort. Pis. Tillii.

190. *Oenoplia spinosa* C. B. P. 477. *Nabca foliis Rhamni* vel *Jujubæ* J. B. I. l. 6. c. 39.

191. *Onobrychis Apula*, perennis, erecta, foliis *Viciæ*, floribus albicantibus, lineis rubris distinctis, in spica densa congestis, fructu aculeato Michel. Cat. H. Pis.

192. *Onobrychis* seu caput *Gallinaceum* minus, fructu maximo, insigniter echinato *Triumf. ap.* ad Frat. 65. I. R. H. 590.

193. *Onobrychis Orientalis*, argentea, fructu echinato minimo Cor. 26.

194. *Orchis angustifolia*, *anthropomorphos*, spica laxiori, flavescens.

195. *Orchis anthropomorphos*, foliis latis, obtusis, capitulis globosis, purpurascens.

196. *Orchis* foliis maculatis, spica densa, rubra.

197. *Orchis* fucum referens, labello gibboso.

198. *Orchis montana Italica*, lingua trifida *Burser. Camp. Elys. Tab. 2. p. 204. Ic.*

199. *Orchis myodes*, lutea, *Lusitanica Breyn. Cent. 101. Tab. 45.*

200. Or-





200. *Orchis odorata*, spica rubra, floribus parvulis, musciformibus.

201. *Orchis palmata*, Sambuci odore, floribus purpureis C. B. P. 86. I. R. H. 435.

202. *Ornithopodio affinis*, hirsuta, Scorpioides C. B. P. 350.

203. *Orobanche flore specioso, fimbriato, ruberrimo*.---Folia per caules habet angusta, et foliola floribus subjecta in longos tenuesque mucrones exeunt.

204. *Orobis foliis angustissimis, radice tuberosa.*

205. *Oxyacantha Arabica*, fructu magno, eduli.---Faciem habet *Oxyacanthæ vulgaris*, sed fructus ad *Cerasi* vel *Azarolæ* magnitudinem accedit.---Copiose crescit in monte S. Catharinæ e regione montis Sinai,

206. *Palma dactylifera*, sive *Nahhal Arabum*; cujus fructus *Tummar*; ramuli *Jeridd* appellantur. Triginta plus dactylorum (sive *Tummar*) species apud Zebenses et Jereedenses enumerantur; quarum *Trunshah* inter grandiores et molliores; forsán *Caryotæ* veterum; *Deglutnore* inter dulciores et conservationi aptissimas reputantur.

207. *Palma minor*, C. B. P. 506. *Palma humilis Hispanica*, spinosa et non spinosa J. B. I. 369. *Chamæriphe* Don. *Pempt. Palma folio plicatili, s. flabelliformi, humilis Raii* Hist. II. 1369.---Interdum ad altitudinem crescit 6 aut 8 pedum, avulsis quotannis e trunco, ut in *Palma*, ramulis. Spectat. *Palma Thebaica*, *Doom dicta*. S. *Κυκιοφόρον* et *Κυκν* Theophrasti Hist. Plant. I. iv. c. ii. et I. iii. c. 8. S. *Cuci* Plin. Hist. Nat. I. xiii. c. 9. S. *Palmae facie Cuciofera* J. Bauh. I. iii. c. 86.

208. *Pedicularis Cretica maritima*, amplioribus foliis et floribus Cor. 9.

209. *Pedicularis Cretica spicata, maxima, lutea* Cor. 9.

210. *Pedicularis Teucris folio*, pediculo insidente, flore parvo ruberrimo.

211. *Pelecinus vulgaris* I. R. H. 417.

212. *Periploca, foliis angustis, confertis, floribus ex viridi flavescens*.---Folia parva rigida, obtusa; quædam acutiora, ad genicula plurima nascuntur. Flores pediculis brevibus hærent e petalis angustis compositi.

213. *Persicaria latifolia major et mitior, foliis et caule maculatis, spica crassiori* Cat. Pl. Agr. Flor. Michel. Cat. H. Pis.

214. *Phillyrea angustifolia, minus serrata* Comm. Ac. R. Sc. Ann. 1722. p. 198. n. 7. *Phillyrea angustifolia spinosa* I. R. H. 596.

215. *Phil-*

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215. *Phillyrea Hispanica*, Nerii folio I. R. H. 596. Comm. Ac. R. Sc. Ann. 1722. p. 198. n. 6.

216. *Periploca foliis angustis, confertis, floribus ex viridi flavescentibus*---Folia parva rigida, quædam obtusa, quædam acutiora, ad genicula plurima nascuntur. Flores pediculis brevibus hærent, e petalis angustis compositi.

217. *Phlomis lutea, villosa, perfoliata, verticillis crebrioribus*.---Folia incana, mollia, propemodum triangularia arcte caulem amplectuntur, et ab eo perforantur.

218. *Pimpinella Oenanthes foliis, multum brachiata, plerumque nuda*.---Graveolens est Planta, quam copiose inveni super ripas Fluminis Salsi, inter montes Al Beeban dictos. Caules tennes sunt, duri, candidi, huè illuc distorti, cum umbellis parvulis albis.

219. *Polium Valentinum, fruticosum, angustifolium, flore albo* Barr. Obs. 331. Ic. 1048.

220. *Polygala vulgaris, major* J. B. III. 387.

221. *Polygonum folio oblongo, crenato*.---Folia unciam longa sunt, tertiam uncie partem lata, utrinque acuminata, et per margines tenuiter crenata. Flores bracteati sunt, monopetali, candidi, lituris, ut in *Ornithogalo*, viridibus notati.

222. *Quercus vulgaris brevibus pediculis* J. B. I. 2. 70.---In Africa hæc species retinet folia per totum annum. Glans dulcis est, et ab Africanis tosta comeditur. Altitudinem viginti pedum non excedit. Folia habet *Quercus latifoliæ* a Casp. Bauhine depictæ ad Matth. p. 179.

223. *Ranunculus Lusitanicus, folio subrotundo, parvo flore* I. R. H. 286.

224. *Reseda Calcitrapæ folio, majore et rarius diviso, perennis*.

225. *Rhagadiolus minus brachiatus, folio ampliore vix dentato*.

226. *Rhamnus Siculus, pentaphyllos* Bocc. Rar. 43.---Copiose crescit prope Warran. Frutex est spinosus, foliis in extremitatibus plerumque trifidis, flore herbaceo, lutescente *Ziziphi*, pentapetalo, calyce integro, bacca monopyrena, ruberrima, eduli, officulo ovali, *Momordicæ* seminis figura.

227. *Rosa sylvestris, rotundifolia glabra, purpurea, calycibus eleganter foliatis*.

228. *Rubeola vulgaris quadrifolia, lævis, floribus obsoletis* Michel. Cat. H. Pis.

229. *Ruta minor, trifoliata, incana, procumbens*.

230. *Salix ramulis villosis, foliis laurinis, superne nigricantibus*.

231. Sa-



231. *Satureia saxatilis*, tenuifolia, compactis foliolis Bocc. Mus. 168. T. 119. *Satureia* seu *Thymra frutescens*, Passerinæ Tragi foliis angustioribus H. Cath. 197.

232. *Scabiosa montana*, fruticosa, reclinatis Archilleæ nascentis foliis H. Cath. I. R. H. 465. *Pterocephalus Achilleæ* foliis Comm. Ac. R. Sc. Ann. 1722. p. 184. n. 3.

233. *Scabiosa prolifera*, foliacea, semine membranaceo majore H. Ox. III. 50. n. 41. *Asterocephalus annuus*, humilis, integri-folius Comm. Ac. R. Sc. Ann. 1722. p. 182. n. 23.

234. *Sclarea folio mucronato*, flore cæruleo, punctato.—Folia pedalia sunt, laciniata Dentis Leonis instar, longo mucrone terminata. Flos dilute cærulescit, cum punctulis purpurascensibus ubique dispersis.

235. *Scolymus Chrysanthemus*, perennis *Ægyptiacus* ferocior D. Lippi Comm. Ac. R. Sc. Ann. 1721. p. 219. n. 19. *Cnicus Niliacus* elatior, asperimus, e glauco inveni, alato caule flore luteo Lip MS. apud Phyt. Sherard. Ox.

236. *Scorzonera Orientalis*, foliis Calcitrapæ, flore flavescente Cor. 36. *Scorzoneroides Resedæ* foliis nonnihil similibus Comm. Ac. R. Sc. Ann. 1721. p. 209. n. 2.

237. *Scrophularia Hispanica* Sambuci folio, glabro I. R. H. 166.—Variat foliis hirsutis.

238. *Scrophularia Lusitanica* frutescens, Verbenæ foliis I. R. H. 167.

239. *Scrophularia Melissæ* folio I. R. H. 167.

240. *Scrophularia Orientalis*, *Chrysanthemi* folio, flore minimo, variegato Cor. 9.

241. *Sedum vermiculare*, pumulum, glabrum, floribus parvis, cæruleis.

242. *Sena Orientalis*, fruticosa, *Sophera* dicta H. L. Bat.

243. *Sideritis floribus luteis*, *Melissæ* foliis, verticillis spinosis. ---*Ocymastro Valentino* Clusii similis est, sed folia habet minus obtusa, flores luteos et spicam productiorem.

244. *Sideritis purpurea*, foliis longis, serratis.—Galea floris amplissima est, et folia longis pediculis adnectuntur. Calyx, ut in priori, aculeatus.

245. *Sideritis purpurea*, angustifolia, non serrata.—Folia superiora Rorismarini magnitudine, Verticilli longius distant, e floribus et calycibus rarioribus, aculeatis, conflati.

246. *Sinapistrum trifoliatum*, angustifolium, asperum, siliqua latiori.—Siliqua sesquiuncialis est, scabra, foliorum et caulis instar. Semina villosa. Folia inferiora ternata, superiora simplicia. Tota planta viscosa est.

247. *Sinapistrum triphyllum*, scabrum, floribus saturate rubris. ---Tota planta prioris instar, viscosa est; sed folia habet latiora et longiora, Hyssopi figura et magnitudine; caules crassiores; flores densas et umbellatim fere in summitate congesti.

248. *Sinapistrum triphyllum*, brevior et hirtiori folio.---Hæc species, ut priores, viscosa est.

249. *Sium arvense*, foliis inferioribus subrotundis, superioribus plerumque trifidis et laciniatis.

250. *Tamariscus Madraspatana*, Cypressi facie Mus. Pet. 681. *Tamariscus Indiæ Orientalis* Belgarum æmula, ramulis Cupressi: Auctocorea Malab. Pluk. Mantiss. 177. Phyt. Tab. 445. f. 4.---Copiose crescit per totam Africam.

251. *Telephium Myosotidis foliis*, amplioribus conjugatis.---Summitates ramulorum *Heliotropii* instar reflectuntur. Florum petala parva sunt; vascula simplicia; trivalvia; plura semina continentia.

252. *Teucrium Delphinii folio*, non ramosum.---Flos albidus est, speciosus, ad singula genicula gemellus. Caulis quadrangularis, simplex. Folia glabra.

253. *Thapsia* sive *Turbith Garganicum*, semine latissimo J. B. III. 2. 50. I. R. H. 322.---*Boneffa Algeriensium*, cujus radicem mulieres comedunt, ut pinguiores fiant.

254. *Thapsia foliis Coronopi divisura*, segmentis obtusioribus, subtus incanis, sive *Toufailet* Arabum.

255. *Thapsia foliis Coronopi divisura*, viridioribus et acutioribus, sive *Edreese* Arabum.

256. *Thlaspidium foliis angustis*, argenteis, fructu parvo.

257. *Thlaspidium folio subrotundo*, dentato, fructu majori.

258. *Thymra tenuissimis Ericæ foliis*, verticillatim congestis.

259. *Tragacantha calyce vesicario*, spinis recurvis.

260. *Tribulus terrestris*, minor, incanus, *Hispanicus* Barr. Ic. 558.

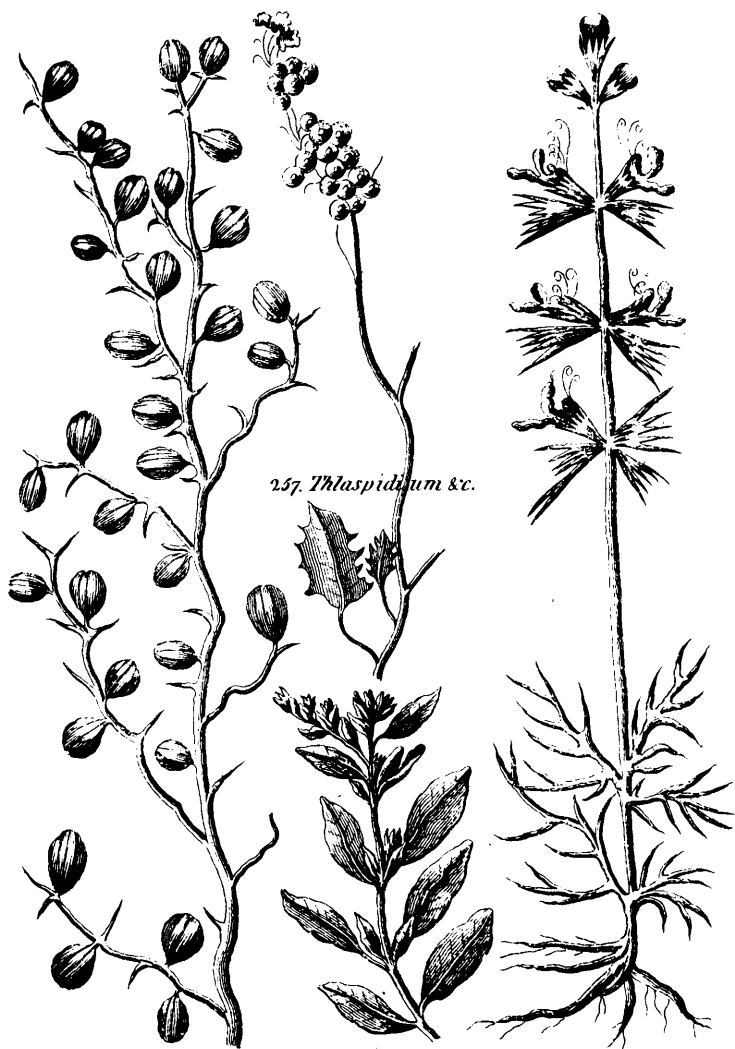
261. *Trifolium humifusum*, glabrum, foliis ciliaribus Vail. B. Par. 195.

262. *Turritis vulgari similis*, sed fruticosior.

263. *Vicia latifolia*, glabra, floribus pallidis, siliqua lata, glabra.---Carina et alæ albæ sunt, galea subfusca; siliqua lata, unciam longa.

264. *Viola fruticosa*, longifolia, flore amplo, subcæruleo.---*A Viola Hispanica ruticosa longifolia* I. R. H. 421. Differt foliis latioribus et floribus magis speciosis.

265. Vir-



269. *Ziziphus Sylvestris*  
l. R. II. 627. *Seedra Arac-*  
*bum Lotus Veterum quic*  
*et.*

251 *Telephium Myosotis*  
*foliis amphioribus con-*  
*jugatis.*

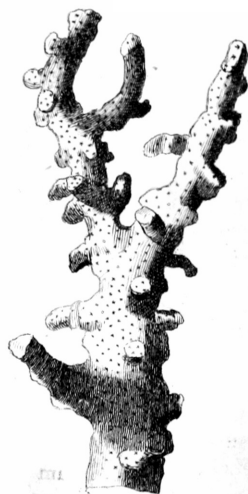
252. *Tracrium Delphijug*  
*folio non ramosum.*







1. *Alcyonium candidum*, cretaceum,  
lamellatum Maris Numidici.

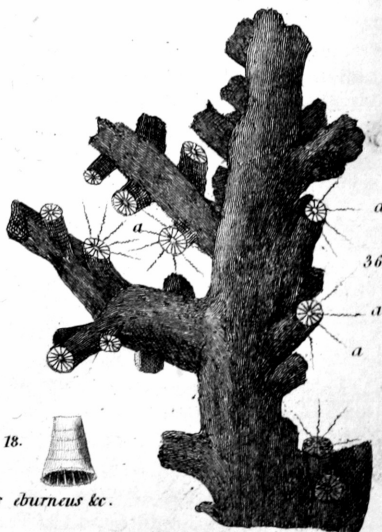


33. *Madrepora Astroites* &c.

30. *Madrepora Abrotanoides ramosior*,  
tuberculis horizontaliter positis.



30.



a

36

a

a



18.



18. *Fungus iburneus* &c.

36. *Porus Magnus* &c. cum  
radicibus, a. a. a. vid. obs. Vol. 2. p. 331.

265. *Virga aurea* major, foliis glutinosis et grave olentibus I. R. H. 414.---*Madramem Arabum*. vid. Obs. vol. i. p. 361.

266. *Vulneraria flore et capitulis majoribus*.---Non est eadem planta cum *Vulneraria flore purpurascente* I. R. H. 591.

267. *Vulneraria Hispanica*, *Ornithopodii* siliquis. *Coronopus* ex Cod. Cæsareo Dod. Pempt. 109.

268. *Xiphion minus*, flore luteo, inodoro I. R. H. 364. *Iris Mauritanica* Clus. Cur. Post. in fol. 24.

269. *Ziziphus* Dod. Pempt. 807. I. R. H. 627. *Jujubæ* majores, oblongæ C. B. P. 446. *Zizipha Sativa* J. B. I. 40.---Hujus fructus ab Africanis *Asafifa* dicitur, unde forsàn *Zizipha* vel *Ziziphus*.

270. *Ziziphus sylvestris* I. R. H. 627. *Zizipha sylvestris* infœcunda H. Cath. (Secundum specimen Hor. Sicci Sherardiani Oxoniæ asservatum), *Seedra Arabum*, quæ et *Lotus veterum*.---*Habitus Rhamni* Flores ut in *Zizipho*. Fructus dulcior, rotundior, minor, *Pruni sylvestris* magnitudine. Ossiculum magnum ut in *Zizipho*. *Seedra* porro fructus fert passim, *Grossulariæ* instar, per ramos sparsos; quum *Jujubæ* surculis tenuibus, pedilibus, quotannis e ramorum extremitatibus pullulantibus, nascuntur. *Ziziphus* etiâ ad altitudinem viginti pedum aut plus excrescit; caudice magno, rimoso; ramis distortis, in extremitatibus nodosis; foliis oblongis, majoribus. *Seedra* vero plerumque non nisi tricubitalis aut quadricubitalis est, ramulis plurimis e eadem radice plerumque exeuntibus, levioribus, candidioribus, rectioribus, cum foliis parvulis, rotundis rigidioribus. Sponte nascitur cum alibi, tum præcipue in loco Regni Tunetanorum, Jereed nuncupato, quæ quondam Pars fuit *Lotophagorum Regionis*. Vid. Obs. vol. i. p. 262. Fructum maturum comedi mensibus Decembri et Januario.

## II.

### *Appendix de Coralliis et eorum Affinibus.*

1. *ALYCONIUM* candidum, cretaceum, lamellatum *Maris Numidici*.---Lamellæ, ordine irregulari invicem connexæ, cavernas formant variarum figurarum.

2. *Corallum album*.---*Maris Numidici* est, et ejusdem formæ et habitus cum *Corallo rubro*, sed rarius invenitur.

3. *Corallum rubrum* I. R. H. 572. Tab. 339.---Copiose colligitur a piscatoribus Gallicis, apud La Calle demorantibus, in mari Numidico.

## 370 *Appendix de Coralliis et eorum Affinibus.*

4. *Eschara Rondeletii* 133. J. B. III. 809. *Retepora Eschara marina* Imp. 630. -- ex mari Numidico.

5. *Fucus pennam referens* I. R. H. 569. *Penna marina* J. B. III. 802. Imp. 650. -- Ut *Fucorum* hæc species inter *Zoophyta* interdum numeratur, locum perperam dedi inter *Pisces*, Obs. vol. i. p. 348. *Piscatores Algerienses* interdum retibus extrahunt, ubi per noctem lumen spargit, *Cicindelæ* instar, ut proximiores pisces dignosci possint.

6. *Fungus coralloides lamellatus Maris Rubri*. *Fungus lapideus* Clus. Hist. 124. Rar. Mus. Besl. T. 27. 26. f. 3. J. B. 813. Ic. 1, 2. -- Formam et figuram fere semper imitatur *Fungi* terrestres, qui nunc planus est, nunc gibbosus, pileatus, aut clypeiformis. Sed laminæ semper in superiori superficie, dum inferior in pistillo desinit.

7. *Fungus coralloides rosaceus* M. R. -- Pars inferior pistillo innititur; superior in acetabula, lamellis plurimis striata, explicatur.

8. *Fungus coralloides, encephaloïdes, gyris in medio sulcatis, lamellatis ferratis* Boerh. Ind. Alt. p. 1. *Lapis fungites, cerebri-formis* Raii H. App. 1850. -- In pistillo desinit, sed latiori, quam in lamellata aut rosacea specie, Ex Mari Rubro.

9. *Fungus Astroites, stellis contiguis, parvulis* M. R. -- Stellæ nimirum angulatæ, decimam uncie partem in diametro non superant. In forma fere semper globulari crescit hæc *Fungorum* species, cum aliæ sequentes vario modo rupes operiunt, nec ullæ formæ specificæ constant. Vid. Obs. vol. ii. p. 332.

10. *Fungus Astroites, stellis contiguis majoribus* M. R. -- Stellæ ad quartam uncie partem accedunt, et nunc sunt rotundæ, nunc ovatæ.

11. *Fungus Astroites, stellis contiguis, lamellatis, rotundis* M. R. -- Stellæ in hac specie semiunciales sunt, cum lamellis profundioribus et crassioribus.

12. *Fungus Astroites, stellis contiguis, profundis, angulatis* M. R. -- Stellæ etiam semiunciales sunt et profundæ, pentagonæ aut hexagonæ figuræ, cum lamellis minoribus.

13. *Fungus Astroites, tuberosus, Stellis rarioribus* M. R. -- Stellæ exiguæ, elegantes, figuram præ se ferunt *Omphalodis* Lusit. Lini-folio I. R. H. 140.

14. *Fungus Astroites elegans, Stellis rarioribus, papillatis, rotundis* M. R. -- Stellæ paulo majores quam in nona specie, cum radiis asperis, punctatis, eminentibus.

15. *Fungus Astroites, stellis rarioribus, acetabulis minus profundis* M. R. -- Stellæ tertiam uncie partem occupant, rotundæ aut ovatæ figuræ; minus præterea eminent, cum radiis levioribus, et intervallis Stellarum magis sulcatis.

16. Fun-



*Appendix de Coralliis et eorum Affinibus.* 371

16. Fungus Astroites, parum ramosus, stellis rarioribus, papillatis M. R.---Stellæ ut in 14<sup>a</sup>. specie, sed læviores.

17. Fungus tubulatus et stellatus M. R. Coralliis affinis Madrepora J. B. III. 807. Madrepora Imp. 720. 3. Spec.---Ex cylindris sive tubulis multis constat, fasciatim dispositis; extremitatibus plerumque prominentibus et in stellas desinentibus. Variat tubulis rotundis ovatis, et compressis. Ad hanc speciem referri potest Fossile illud Grew's *piped waxen Vein* dictum.

18. Fungus eburneus, pyxidatus, compressus.---Lævis est ex attritu maris; licet primitus rugosa fuisse videatur hæc species, instar Fossilis illius *Plectonites* dicti, quod etiam ad Fungum hunc referri debet.

19. Keratophyton arboreum, nigrum Boerh. Ind. Alt. p. 6: Corallium nigrum sive Antipathes J. B. III. 804. Lob. Ic. 251.---Rami in hac specie plerumque intertexti sunt, cum materia quadam, ceræ simili, hic illic interspersa. Ex Mari Numidico.

20. Keratophyton cinereum, striatum, tuberculis minutibus M. N.---Pedalis est hæc species, ramis rectis, minus frequentibus. Tubercula, Nicotianæ seminibus æqualia, ubique per ramulos disperguntur.

21. Keratophyton cinereum, flabelliforme, nodosum, ramis frequentioribus, hac illuc distortis M. N.---Formam Lithophyti flabelliformis habet, nisi quod rami non sunt intertexti. Pedalis aut altior est hæc species; striata etiam, cum tuberculis, ut in priori; sed paulo maioribus, auctioribus, et frequentioribus.

22. Keratophyton cinereum, fragile, ericæforme, ramis pinnatis M. N.---Tubercula undique circa ramulos, Ericæ foliorum instar, vel quasi catenatim disposita sunt.

23. Keratophyton rufescens, ramulis capillaceis, sparsis M. N.---Cubitalis est hæc species, cum tuberculis parvulis, quasi evanescentibus.

24. Keratophyton rubrum, Algeriense, Virgulti facie.---Tuberculis totum obseritur, parvulis sursum spectantibus, instar vasculorum Plantaginis, sed minoribus. Triubitalis est, cum ramis laxiori modo dispositis, quam in 20<sup>a</sup>. specie. Lapidis, cui innascebatur, plurima semina, Lentis magnitudine, introrsum emarginata, lapidea, subfusca adhærebant; quorum unum postea turgebat, quasi germine fœtum, et colorem rubrum, Corallinum, assumebat. Ex Mari Algeriensi.

25. Madrepora *Αἰγοταροειδής* candida, ramulis brevibus obtusis, uno versu dispositis M. R. Planta *Saxea Αἰγοταροειδής* Clus. H. Exot. l. vi. c. vii.---Variat colore fusco. In utraque specie tubercula sunt aperta.

Hæc

# 372 *Appendix de Coralliis et eorum Affinibus.*

☞ Hæc et sequentes species, *Agrotavouidēs* dicuntur, quod  
 ' Rami Abrotani seminæ (a nonnullis *Chamaecyparissus* Plinii  
 ' existimati) foliorum formam pœne referebant; nam brevibus  
 ' tubulis, instar minutissimorum foliorum constabant, eadem serie,  
 ' ut illa, dispositis, sed magis multiplici, quia pauci quaternis, ple-  
 ' rique quinis, senis et septenis, interdum etiam pluribus ordinibus  
 ' compacti erant: In crassioribus autem ramis, qui quodammodo  
 ' candicabant, fere attrita erant illa folia, ut dumtaxat foramina  
 ' relicta apparerent tanquam foliorum tubulorum vestigia. Clus.  
 ' Exot. l. vi. c. vii. p. 123.'

26. *Madrepora Agrotavouidēs* repens, ramulis longioribus uno  
 versu dispositis M. R.---Fasci est coloris, cum tuberculis minoribus,  
 apertis, sed asperioribus.

27. *Madrepora Agrotavouidēs* nodosior, tuberculis, uno versu  
 dispositis M. R.---Ejusdem est coloris cum priori, sed minus ramosa,  
 cum ramis crassioribus.

28. *Madrepora Agrotavouidēs* ramosior, tuberculis sursum  
 spectantibus M. R.---Candida est, cum ramis acutis, erectioribus.

29. *Madrepora Agrotavouidēs* ramosior, tuberculis longioribus,  
 clausis, sursum spectantibus M. R.---Rami acuti sunt, ut in priori;  
 sed viridescunt, et umbellatim quasi nascuntur.

30. *Madrepora Agrotavouidēs* ramosior, tuberculis horizontaliter  
 dispositis M. R.---Tubercula aperta sunt, et rami magis sparsi  
 quam in præcedenti specie.

31. *Madrepora Astroites* flavescens, nodosa, minus ramosa M.  
 R. *Corallium stellatum*, minus rubrum J. B. III. 806. Imp.  
 718.

☞ Loco tuberculorum, hæc et sequentes species asteriis sive  
 stellis exiguis planis ubique notantur; propterea *Astroites* audit,  
 et ab Abrotanis distinguitur.

32. *Madrepora Astroites* humilis, ceratiformis M. R.---Ramuli  
 in hac specie rotundi sunt, et in extremitatibus acuti.

33. *Madrepora Astroites* major, ceratiformis, ramulis obtusis,  
 planis, magis dispersis M. R.

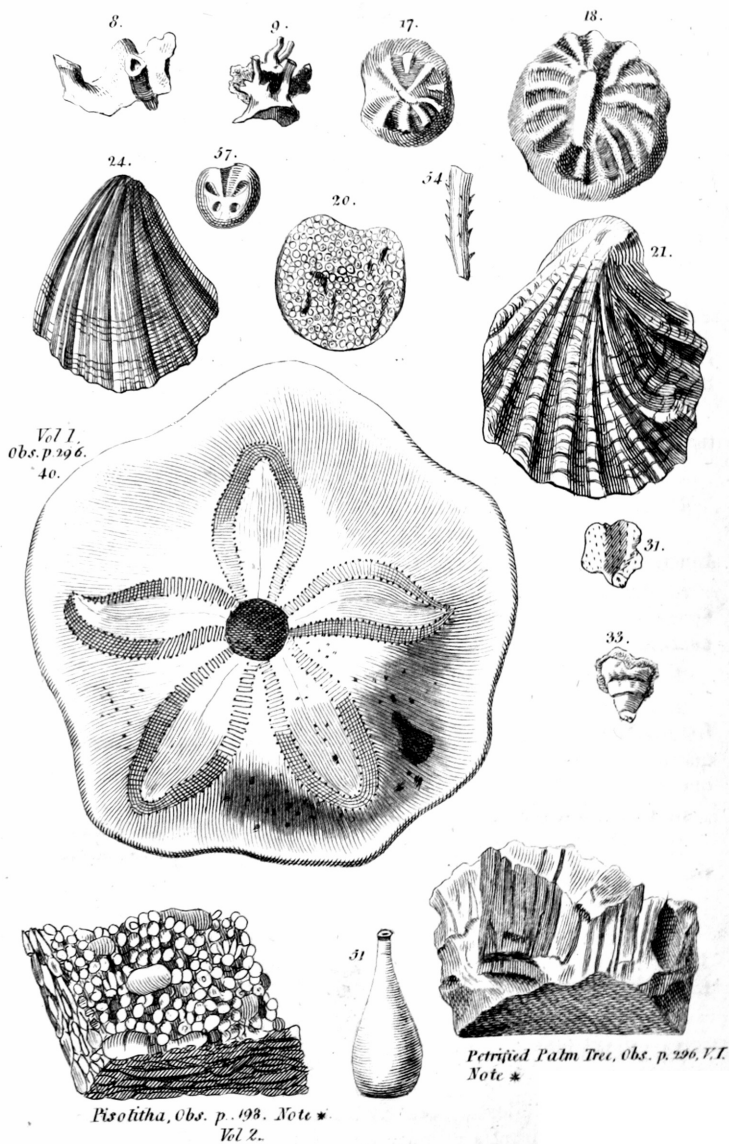
34. *Madrepora Astroites* major, ceratiformis, ramulis obtusis,  
 planis, confertis M. R.

35. *Madrepora Astroites*, *Quercus marinæ* vulgaris facie, ramis  
 connatis M. R.

36. *Madrepora maxima* arborea I. R. H. 573. Porus magnus  
 J. B. III. 807. Imp. 624. Ex mari Numidico.

37. *Madrepora* tubulis eleganter coagmentatis constans, ru-  
 berrimis Boerh. Ind. Alt. p. 6. *Tubularia purpurea* I. R. H.  
 575.





575. Coralliis affinis; *Alcyonium fistolosum rubrum* J. B. III.  
808. H. Ox. III. Tab. et fig. ultima.---Ex Mari Rubro, ubi  
specimina vidi longitudine sesquipedali, latitudine pedali.



### III.

#### *Catalogus Fossilium quorundam Rariorum e Rupibus et Lapicidinis Africæ.*

Vid. supra, p. 326.

1. *ACULEUS* cylindraceus, striatus, bullis parvulis obtusis insignitus. Radiolus cucumerino minori accedens, teretiformis Lhuidii Lithophylacii Brit. 1030.---Formam habet aculei Echini laticlavii, bullis donati, Obs. supra, p. 336.
2. *Aculeus* cylindraceus, striatus, bullis parvulis acutis notatus.
3. *Aculeus lævis, quadratus.*
4. *Balanus cinereus, fossilis.*
5. *Belemnites, Succini* adinstar, pellucidus, quibusdam *Lapis Lincurii* Lh. Lithopll. 1707.
6. *Buccinites cancellatus, eburneus.*---Hæc et sequens species figuram habent Cochlearum striatarum Listeri Sect. v. c. 7. *de Conchyl.*
7. *Buccinites cancellatus, ruber, cum vermiculo adsito.*
8. *Corallium ramulosum, perfractum* Lh. Lith. 92. Tab. 3. f. 92.---Nostrum pyxidatim seu in acetabulis variæ formæ crescit, quorum plurimi compressi sunt. In rupibus Oranensibus frequens.
9. *Corallium tenuius ramosum, album, elegantissimum.*
10. *Echinites bullis parvulis, raris, ordine irregulari posit.*
11. *Echinites discoides, lævis, gibbosior.*
12. *Echinites galeatus, spoliatus, seu ex toto siliceus, vulgaris* Lh. Lith. 956. *Brontias sive Ombria ovalis* Plot. H. Ox. T. 2. f. 14. & T. 3. f. 1.---Nostrum in dorso paulo gibbosius est.
13. *Echinorum laticlavium scuta varia.*
14. *Echinites pentaphylloides, lævis, gibbosus, ad oris aperturam sulcatus.*
15. *Echinites pileatus, seu figura conoide vel quodammodo turbinata; sive Brontia prima Lachmundi* Lh. Lith. 962.
16. Fun-

16. Fungi pyxidati fossilis, qui vulgo Plectronites dicitur, varia specimina.

17. Fungus fossilis rugosus et striatus, gibbosior.

18. Fungus fossilis, rugosus, magis depressus, ruga intermedia, longiori.

19. Madreporæ Imperati fossilis, varia etiam specimina.

20. Myconites rotundus, compressus.---Ovorum piscium quorundam massa fossilis est, quam Nomades Thevestini nummum esse existimant in lapidem conversum.

21. Ostracites confragosus lividus, striis inæqualibus imbricatis, et margine sinuato donatus.

22. Palma fossilis.---Hoc specimen mihi dedit V. Cl. Dom. Le Maire, quod cum aliis fossilibus, Echinis scilicet et Conchylis, recepit e Ras Sem in Regione Barcæ. Eundem caudicem, eosdemque fibrarum ductus et ordines præ se fert, quibus lignum ipsius Arboris vivæ insignitur. Trunci integri interdum ibidem inveniuntur.

23. Pectinites eburneus, sex aut septem striis elatioribus, levibus, incisuris asperiusculis insignitus.---Triuncialis fere est in circuitu, et æqualiter auritus. Striæ ejus et incisuræ æqualia conchylis spatia occupant.

24. Pectinites elegans, striis quinque aut sex elatioribus, majoribus, intermediis tribus minoribus, magis depressis.

25. Pectinites lævis, parvulus, striis crebris, ad basin tenuiter sulcatis.

26. Pectinites lævis, undecim aut duodecim striis compressis insignitus.---Ad pectines ex utraque parte æqualiter auritos pertinet. Fasciis creberrimis, tenuissimis eleganter notatus est. Medio dorso cavus, ubi striæ et fasciæ enanescunt.

27. Pectinites magnus striis quindecim aut pluribus, bullatis, elatioribus, incisuris intermediis depressioribus, asperis. Magnitudine et figura convenit cum Pectine primo Listeri, nisi quod noster inæqualiter auritus est.

28. Pectinites parvulus, striis crebris, asperis eleganter notatus.

29. Pectunculites exiguus, confractus, tenuiter striatus.

30. Pectunculites polypleptoglymus, speciosus, leviter fasciatus.---Decem uncias superat in circuitu. Cretacei coloris est, intus fragmentis variorum conchyliorum fossilium repletus.

31. Retepora fossilis, cinerea.

32. Terebratula vulgo, sive Conchites vertice perforato.---Varia hujusce Conchylis, ut et Pectinum genera, ubique per Africam,

cam, Asiam, Arabiam, et in ipsis Pyramidum gradibus, inveniuntur.

33. Trochites nodosus, luteus, semiuncialis.

*E Lapidibus præcipue Pyramidum, et locis circumjacentibus.*

Vid. supra, p. 197.

34. Aculeus cylindraceus bullatus.---Non striata est hæc aculeorum species, ut reliquæ fere omnes quæ sunt bullatæ. Ad magnitudinem pennæ anserinæ aut cygnæ interdum accedit.

35. Aculeus latus, compressus, lævis, subcæruleus.---Dimidiam unciam partem latus est.

36. Astaci fossilis brachii articulus extimus et maximus.---Astacum totum vidi in lapide inclusum, hæc tamen partem mihi solummodo contigit evellere.

37. Chamæpholadis angustæ, intus fasciatæ, nucleus.

38. Chamites, planus, cinereus, rotundulus, rostro acuto. Circinata minor Lh. Lith. 741.

39. Echinites laticlavus compressus, semiuncialis, ordinibus bullarum binis juxta positus.

40. Echinites pentaphylloides, striis æqualibus, umbone aperto.---Plus quam pedalis est in circuitu, dorso parum elato et aperto. In deserto Marah inveni, in via ad montem Sinai.

41. Ichthyodos, vulgo *Bufonites* dictus, gibbosus, luteus.

42. Ichthyodos, vulgo *Glossopetra* dictus, acutus, semipellucidus, margine utrinque lævi.

43. Lithoxylon ferruginei coloris.---Fragmenta plurima variae magnitudinis ubique jacent in Isthmo inter Kairum et Suez.

44. Madrepora astroites fossilis, Quercus marinæ facie.

45. Madreporæ Imperati, Pori magni et Corallii cujusdam flavi coloris, fragmenta plurima fossilia.

46. Pholas cinereus, fossilis, uncialis, lævis.---Figura convenit cum Pholade involucro spoliato Lh. Lithoph. Tab. 10. f. 878. nisi quod noster major est.

47. Rhombi cylindracei, parvuli, nucleus.

48. Turbinites compressus, fasciatus, sesquiuncialis.---Albidus est, fluore intus refulgens. Figura fere convenit cum Σαλπιγς Fab. Colum. Aquat. &c.

*E Rupibus præcipue Laodiceæ et Scalæ Tyrriorum.*

Vid. supra, p. 154.

49. Aculei Echinorum fossiles, Lapidés Judaici vulgo dicti.---Horum ubique varietates quamplurimæ.

50. Aculeus lævis, turgidus, Lapidis Judaici forma et magnitudine.

51. Aculeus lævis, Pyri vel Fici-formis.---Hic et præcedens lividi coloris sunt.

52. Aculeus lævis, cylindraceus, cinereus.---Pennam corvinam crassitie æquat.

53. Aculeus torosus, minor Lh. Lith. 1047.

54. Aculeus torosus, seu ramusculis insignitus, major.---A præcedenti differt, quod, ramusculis (aculeis potius) exceptis, totus lævis sit, cum alter striis altis notetur.

55. Aculeus idem cum 53a. specie.---Variat bullis asperioribus,

56. Echinites asperior, pentaphylloides, striis majoribus, æqualibus.

57. Echinites lævis, pentaphylloides, postica parte gibbosiori, anteriori sulcata.---Ex quinque suturis sive striis, quibus insignitur hæc species, tres anteriores longæ, speciosæ sunt, (quarum media sulcata est); alteræ duæ rotundæ, exiguæ.

58. Locustæ forficula vel serrula interior Lh. Lith. 1246. Tab. 14. f. 1246.

59. Pectunculites lacunatus minor Lh. Lith. n. 684.

60. Porus minimus, reticulatus Lh. Lith. n. 94. Tab. 3. 94. ---Speciminum nostrorum alia cylindracea sunt, alia compressa, quorum unum et alterum arcuatum est, in margine eleganter sinuosum.

61. Piscium fossilium varia genera, ad Islebrianos accedentia forma, situ et materia.

62. Squilla fossilis, cujus Icon exhibetur in Mus. Besl. nisi quod nostra minor est.

✠ Præter hæc, plus centum alia Fossilium genera, una cum Echinis, Coralliis et eorum affinibus, Vasibus, Icunculisque quam plurimis ex Africa olim transmissi, et Celeberrimo Woodwardio conservanda commendavi. Illo interim defuncto, dum ipse apud exteras gentes commoratus fui, eorundem nullam plane rationem reddere voluerunt Testamenti Curatores; sed ea aut vendebant aut retinebant omnia, tam meo, quam Historiæ Naturalis Studiosorum detrimento.



## IV.

*Pisces nonnulli Rariores, qui maria Algeriensium et Tunitanorum frequentant.*

Vid. vol. i. p. 348.

1. ALPHÆSTES sive Cynædus Rondel. 170. Raii Synops. Piscium, p. 137.
2. Asellus mollis major. Raii Synop. p. 55, 56.
3. Asellus mollis minor. *Ibid.*
4. Aurita omnium Autorum Raii Synop. p. 131. Jeraffa Maurorum.
5. Buglossus, Linguacula, et Solea Rondel. p. 320. Raii Synop. 33.
6. Canis Carcharias sive Lamia Rondel. p. 18.
7. Catulus minor vulgaris Raii Synop. 22.
8. Cephalus Rondel. 260. Mugil Raii Synop. 84.
9. Cuculus Aldrovandi Raii Synop. 89.
10. Draco sive Araneus Plinii Rondel. 301. Raii Synop. 91.
11. Faber sive Gallus marinus Rondel. 328. Raii Synop. 99. a nonnullis Piscis Sti. Petri dicitur.
12. Galeus Acanthias sive Spinax Rondel. 373. Raii Synop. 21.
13. Galeus lævis Rondel. 375. Raii Synop. 22.
14. Glaucus Aldrov. p. 302. Amia Salvian. fig. & p. 121. Leccia (*Leechy* vulgo) Romæ et Liburni Raii Synop. 93.
15. Hirundo Rondel. 284. Milvus Salvian. fig. & p. 187. Raii Synop. 89.
16. Hirundo vera Veterum Salvian. fig. & p. 185. Mugil alatus Rondel. 267.
17. Lupus Rondel. 268. Raii Synop. 83.
18. Mairo Hispan. *Maizah* s. Capra Maurorum.
19. Mormyrus Rondel. 153. Raii Synop. 134. *Maura*, vulgo Hispanis.
20. Mullus barbatus Rondel. 290. Raii Synop. 90. *Triglia* Italica, *Rouget* Gallis, locis quamplurimis *Salmonetta*.
21. Mauræna Rondel. 403. Muræna omnium Autorum Raii Synop. 34.

22. *Orthroriscus* sive *Luna Piscis* Rondel. 424. *Mola* Sal-  
vian. fig. 154. p. 155. Raii Synop. 51.

23. *Pagrus* Rondel. 142. Raii Synop. 131.

24. *Pastinaca* capite obtuso sive bufonio. *Aquila Romanis et*  
*Neapolitanis*; nec non *secunda Pastinacæ species* Rondel. 338.  
Raii Synop. 23.

25. *Pelamys vera* sive *Thynnus Aristotelis* Rondel. 245. Raii  
Synop. 58.

26. *Perca marina* Rondel. 182. Raii Synop. 140.

27. *Polypus orbicularis*, exiguus, mari innatans, Obs. vol. i.  
p. 348. et vol. ii. p. 331. *Urtica marina soluta* Fab. Col. Aquat.  
&c. p. xx. xxii.

28. *Raia clavata* Rondel. 353. Raii Synop. 26.

29. *Raia oxyrrhynchos*, *Squatinæ facie*, unico spinarum ordine  
donata. *Raia secunda oxyrrhynchos*, sive *Bos antiquorum* Ron-  
del. 347.

30. *Salpa* Rondel. 154. Raii Synop. 134.

31. *Sargus* Rondel. 122. Raii Synop. 130.

32. *Scorpius minor* sive *Scorpena* Rondel. 142. Raii Synop.  
142.

33. *Serpens marinus*, cauda compressa, pinnis cincta, in ora  
nigris. *Myrus* Rond. Gesnero, p. 681.

34. *Squatina* dorso lævi, alis in extremitatibus clavatis.

35. *Torpedo* maculis pentagonice positis, nigris.

36. *Trachurus* Rondel. 133. Raii Synop. 92.

37. *Turdus minor cæruleus*.

38. *Turdus minor fuscus*, maculatus, pinnis branchialibus au-  
reis, aliis ex viridi cærulescentibus.

39. *Turdus minor viridis* Raii Synop. 137.

40. *Umbra* Rondel. 132. Raii Synop. 95.

41. *Zygæna* Rondel. 389. Raii Synop. 20.

## V.

*Conchylia quædam rariora Maris Mediterranei  
et Rubri.*

Vid. vol. i. p. 350.

1. **AURIS** marina major, latior, plurimis foraminibus conspicua List. Hist. Conchyl. Sect. 7. n. 2.

2. **Balanus** purpurascens, capitis apertura valde patenti.---Nunc rupibus adhæret, nunc Corallinis, aut Materiæ cuidam Madreporæ affini, a Penecillis et Vermicuculis perforatæ.

3. **Balanus** purpurascens, ventricosior, capite minus aperto.

4. **Buccinum** ampullaceum fuscum, clavicula nodosa.

5. **Buccinum** ampullaceum, rostratum, striatum, triplici ordine muricum exasperatum List. Hist. Conch. Sect. 13. n. 22. **Purpura** altera muricata Aquat. et Terr. Obs. LXIV. Ic. LX. sive **Murex** parvus rostratus Fab. Col. Desc.

6. **Buccinum** ampullaceum, rostratum, (leviter) striatum, muricatum, ex duplici ordine in ima parte primi orbis List. H. Conch. Sect. 13. n. 20.---Variat colore eburneo et fusco.

7. **Buccinum** ampullaceum tenue, rostro leviter sinuoso, profunde et rarius sulcato List. H. Conch. Sect. 13. n. 18.

8. **Buccinum** bilingue striatum labro propatulo.---Labrum nostri planum est, sine digito aliter figuram præ se fert n. 20. List. H. Conchyl. Sect. 12.

9. **Buccinum** bilingue, rostro recurvo, labro producto, clavicula muricata.---Variat inter n. 19. et 28. List. H. Conch. Sect. 15. n. 1.

10. **Buccinum** brevirostrum nodosum List. H. Conch. Sect. 15. n. 1. **Purpura** violacea Fab. Col. Purpur. Ic. et Descript. p. 1.

11. **Buccinum** maximum, variegatum ac striatum Fab. Col. Aquat. et Terrest. Obs. LIII. Ic. Descript. LVI.

12. **Buccinum** recurvirostrum, striatum, quinque aut sex muricum ordinibus asperum.

13. **Buccinum** rostratum, candidum, leviter striatum, sinuosum List. H. Conch. S. 14. n. 14.

14. **Buccinum** rostratum, labro duplicato, quasi triangulari List. H. Conch. Sect. 14. n. 37.

15. **Buccinum** rostratum læve, labro simplici, alte striatum ad intervalla List. H. Conch. Sect. 14. n. 27.

16. Buc-

16. *Buccinum* rostratum, triplici ordine muricum canaliculorum horridum List. H. Conch. Sect. 14. n. 41. *Purpura* sive *Murex* pelagius, marmoreus Fab. Col. Ic. LX. Descr. LXII.

17. *Chamarum* et *Tellinarum*, margine lævi et dentato, multa genera.

18. *Cochlea* variegata, dense et admodum tenuiter striata, item quolibet orbe duæ insignes striæ parallelæ, bullatæ List. H. Conch. Sect. 4. n. 60.

19. *Concha* margaritifera plerisque: *Berberi* antiquis Indis dicta List. H. Conch. l. 3. Sect. 1. n. 56.

20. *Concha* marina marmorea imbricata List. H. Conch. l. 3. n. 191.

21. *Concharum* *Veneris* varietates quamplurimæ.

22. *Musculus* *polyleptoginglymus*, eleganter striatus, rostris a cardine remotis. *Musculus* *Matthioli* List. H. Conch. l. 3. Sect. 6. n. 208.

23. *Nautilus* maximus dense striatus, auritus. *Nautilus* *CALCEOL.* *Nautili* primum genus *Aristot.* secundum *Bell.* et *Aldrov.* List. Hist. Conch. Sect. 4. n. 7.

24. *Nerita* albidus, ad columellam dentatus, striis magnis et parvis alternatim dispositis donatus.

25. *Ostrea* rostro crasso, elato in aciem compresso.

26. *Patella* major striata, rufescens intus eburnea, vertice acuto.---*Ovalis* est figuræ, pedemque fere habet in circuitu.

27. *Patellarum* verticibus integris et perforatis varia genera.

28. *Pecten* parvus, inæqualiter auritus, tenuiter admodum striatus.---Magna colorum varietate ubique reperitur hæc species et mari Rubro et Mediterraneo.

29. *Pecten* ruber, æqualiter auritus, 13 striarum, dorso compresso læviori.---Striæ et canaliculi spatia æqualia occupant.

30. *Pectunculus* cinereus, asper, angustior, tenuiter et creberrime striatus.

31. *Pectunculus* crassus, eburneus, alte striatus, orbicularis.---Variat colore rufescente.

32. *Pectunculus* eburneus, dorso in aciem compresso List. H. Conch. l. 3. Sect. 5. n. 155.

33. *Pectunculus* in medio leviter striatus, intus lividi coloris.---Striæ et fasciæ viridescunt; cæterum albidus est, et ad figuram accedit n. 169. List. H. Conch. l. 3. Sect. 5.

34. *Pectunculorum* lævium, triquetrorum varia genera.

35. *Pectunculus* *polyleptoginglymus* crassus, profunde sulcatus,

tus, luteus.---Ad figuram accedit n. 70. List. H. Conch. l. 3. Par. 1. sed noster duplo major est.

36. *Pectunculus* polyl. lævis, rufescens, fasciis albidis.

37. *Pectunculus* polyl. cancellatus, oblongus, margine ex una parte productiori.---Margo ubique musco fimbriatus est. Figura convenit cum *Chama nigra Rondeletii* List. H. Conch. l. 3. n. 260.

38. *Pectunculus recurviroster*, medio lævis, ad marginem fasciis rugosis, quasi *Corallinis*, notatus.---Non dissimilis est forma *patellis* vertice adunco.

39. *Pectunculus rufescens*, striis magnis compressis, in dorso leviter sulcatis, in margine echinatis.

40. *Pectunculorum striatorum*, rostris rectis et recurvis, infinita genera.

41. *Pinna magna*, imbricata, sive muricata List. H. Conch. l. 3. n. 214.---*Nacre* vel *Nakker* vulgo maris Mediterranei; cuius *Barba*, *Serici* instar mollijs, fuit forsan *Byssus Antiquorum*.

42. *Solen rectus*, ex purpura radiatus List. H. Conch. l. 3. n. 256.

43. *Sphondylus coccineus*, striatus, rostro lato, ex una parte auriculato.

44. *Sphondylus eburneus*, lamellatus, rostro acuto, recurvo.---*Lamellæ* plerumque pyxidatim positæ sunt, et *Balanos* forma referunt.

45. *Trochus clavicula breviori*, striis eleganter nodosis.

46. Idem striis inferioribus nodosis, superioribus muricatis.

47. Idem muricatus, clavicula magis exporrecta.

48. *Trochus pyramidalis*, erectus, rufescens, lævis, orbibus latis, in imis partibus solum nodosis. Icon apud Jonst. H. de Exang. p. 36. Tab. 12. sub titulo *Trochi magni*. Turbo maximus *Persicus* verior Fab. Col. Aq. et Terr. Obs. LXV. Tab. LX.

49. *Trochus pyramidalis*, striatus, muricibus radiatim ad marginem dispositis List. Hist. Conch. Sect. 8. n. 9.

## VI.

*A Vocabulary of the Showiah Tongue.*

Vid. vol. i. p. 402.

## NOUNS.

ABELOULE	<i>a Fool</i>
Afuse	<i>the Hand</i>
Ageese	<i>Cheese</i>
Agroume	<i>Bread</i>
Akham	<i>a Horse</i>
Aksheesh	<i>a Boy</i>
Aksoume	<i>Flesh</i>
Akyth	<i>Here</i>
Alfill	<i>Snow</i>
Amoukran	<i>{ a Master, or</i>
	<i>great.</i>
Anserne	<i>the Nose</i>
Aowde }	<i>a Horse</i>
Yeese }	
Arica	<i>To-morrow</i>
Arsh	<i>a City</i>
Asceegass	<i>a Year</i>
Assa	<i>To-day</i>
Athrair	<i>a Mountain</i>
Aufkee, or }	<i>Milk</i>
Ikfee }	
Azimoure	<i>Olives</i>

## NOUNS.

Azgrew	<i>a Stone</i>
Azrimme	<i>a Serpent</i>
Dahan	<i>Butter</i>
Dakallee	<i>a Little</i>
Defoual	<i>Bad</i>
Earden	<i>Wheat</i>
Elkaa }	<i>the Earth</i>
Tamout }	
Eiar	<i>the Night</i>
Emee	<i>the Mouth</i>
Ergez or }	<i>a Man</i>
Arghaz }	
Ewdan	<i>People</i>
Fouse	<i>the Head</i>
Haken	<i>there</i>
Jitta	<i>the Body</i>
Ikra	<i>It, or something</i>
Illaalee	<i>Good</i>
Ouglan	<i>the Teeth</i>
Oule	<i>the Heart</i>
Ouly	<i>a Sheep</i>
Ouzail	<i>Iron</i>

*The Names of other Metals, as in the Arabic.*

## NOUNS.

Swaagy	<i>Butter-milk</i>
Taksheesh	<i>a Girl</i>
Taphoute }	<i>the Sun</i>
Kylah }	
Tasta	<i>a Tree</i>
Tegmert }	<i>a Mare</i>
Alowdah }	
Tigenoute	<i>Heaven</i>
Tizeer }	<i>the Moon</i>
Woule }	
Thamatouth	<i>a Woman</i>
Thamempt	<i>Honey</i>

## NOUNS.

Thamzeen	<i>Little</i>
Thareet	<i>the Feet</i>
Thaw-went	<i>a Fountain</i>
Thaulah	<i>a Fever</i>
Theganee	<i>Dates</i>
Themzee	<i>Barley</i>
Thezaureene	<i>Grapes</i>
Thigata	<i>the Night</i>
Woodmis	<i>the Face</i>
Yegazer	<i>a River</i>
Yethra	<i>a Star</i>
Yibowne	<i>Beans</i>

*The*

*The Declension of Nouns and Pronouns.*

Athrair	<i>a Mountain</i>	Enou	<i>Mine</i>
Ithourair	<i>Mountains</i>	Eanick	<i>Thine</i>
Yegazar	<i>a River</i>	Eaniss	<i>His</i>
Yegazran	<i>Rivers</i>	Enouwan	<i>Ours</i>
Ergez	<i>a Man</i>	Ennessick	<i>Yours</i>
Ergessen	<i>Men</i>	Eanissen	<i>Theirs</i>
Neck	<i>I</i>	Ifouseou	<i>my Hand</i>
Ketche	<i>Thou</i>	Ifouseak	<i>thy Hand</i>
Netta	<i>He</i>	Ifouseis	<i>his Hand</i>
Nekence	<i>We</i>	Ifousenouwan	<i>our Hands</i>
Hounouwee	<i>Ye</i>	Ifousenouak	<i>your Hands</i>
Neutnee	<i>They</i>	Ifousenissen	<i>their Hands</i>

*Verbs, with their Conjugations.*

Aitch	<i>to eat</i>	Sewel	<i>to speak</i>
Akel	<i>to see</i>	Neck sewel	<i>I speak</i>
Atsoue	<i>to drink</i>	Ketche sewel	<i>Thou speakest</i>
Bidfillah	<i>to stand</i>	Neck seulgaz	<i>I spoke</i>
Einah	<i>to mount</i>	Ketche seulgaz	<i>Thou speakest, &amp;c.</i>
Erse	<i>to dismount</i>	Itch	<i>eat</i>
Ouse	<i>to give</i>	Iswa	<i>drink</i>
Owee	<i>to take away</i>	Iker	<i>rise, &amp;c.</i>
Teganoute	<i>to sleep.</i>		
Attuss			

*Numbers and Phrases.*

Ewan	<i>One</i>	Seen	<i>Two</i>
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*The other Numbers as in the Arabic.*

Manee illa ?	<i>Where is it ?</i>
Oushee eide.	<i>Give me that.</i>
Oushedoura.	<i>I give it.</i>

<i>Ifkee also, or Ifgee, is another word for give me : as,</i>	
Ifkee ikra adetshag, neck alou- zagah.	<i>Give me to eat, for I am hun- gry.</i>
Ifkee ikra wamani adeswaag, nec foudagah.	<i>Give me water to drink, for I am thirsty.</i>
Neck urfedaag ikra.	<i>I am not thirsty.</i>

Kadesh

Kadesh asseghassen themeurtaye akyth ?	<i>How many years have you been here ?</i>
Ergez illalee oury tagadt ikra.	<i>A good man fears nothing.</i>
Ergez defoual tagedt.	<i>A bad man is afraid.</i>

## VII.

*The several Stations of the Hadjees, or Pilgrims,  
in their Journey to Mecca.*

Vid. supra, p. 117.

*Viz.*—FROM KAIRO TO

	<i>Deraje</i> *.	
BIRQUE EL HADJE	80	<i>a pond of water</i>
Dal el Sultan	200	<i>no water</i>
Adjeroute	200	<i>bitter water</i>
Rasty watter	180	<i>no water</i>
Teah-wahad	200	<i>no water</i>
Callah Nahhar	220	<i>good water</i>
Ally	230	<i>no water</i>
Callah Accaba	220	<i>good water</i>
Thare el Hamar	200	<i>no water</i>
Shirfah	240	<i>no water</i>
Maggyre el Shouibe †	230	<i>running water</i>
Ain el Kasaab	220	<i>running water</i>
Callah Mowlah	220	<i>good water</i>
Sheck Murzooke	180	<i>good water</i>
Callah Azlem	190	<i>bad water</i>
Astabel Anter	230	<i>good water</i>
Callah Watiah	200	<i>good water</i>
Akrah	250	<i>bad water</i>
Hunneck	180	<i>no water</i>
Howry	200	<i>bad water</i>
Ne-bat	200	<i>good water</i>
Houdaarah	200	<i>bad water</i>
Casabah Yembah	220	<i>running water</i>
Sakeefah	200	<i>no water</i>

Bedder

\* Each *Deraje* is equal to four minutes of an hour.

† Shouibe, the same with Jethro, who is supposed to have lived here.



	Deraje.	
Bedder Houneene *	80	running water
Sebeely Ma-sonne	240	no water
Raaky Me-kat †	230	good water
Kadeedah	220	no water
Asphaan	200	running water
Wed el Fathmah	200	running water
MECCA	120	Zim-zem §
Arafat ¶	60	

The pilgrims, in their return from Mecca, visit the sepulchre of their prophet at Medina, which lies at the distance of three stations from Bedder Houneene, in the following manner, viz. from thence to

	Deraje.	
Sakarah Zedeedah	180	good water
Kubbourou Showledahy	230	no water
MEDEENA Mownowarah	200	

## VIII.

### Mesure de la grande Pyramide de Memphis.

Vid. supra, p. 75.

CETTE Pyramide est orientée aux 4 parties du Mond, Est, Ouest, Nord, Sud.

L'entree est du cote du Nord.

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La

\* Here the pilgrims arrive the night of the new moon, and perform several religious ceremonies, lighting up a number of lamps, and discharging a variety of squibbs, rockets, and other fire-works.

† Here, out of veneration to the Holy City they are approaching, they strip themselves naked, and travel in that manner the four following days, covering only their heads and privities with napkins.

‡ This they call the Ihram, or *sacred habit*, consisting of two woollen wrappers, one for the head, the other for the private parts. They wear at the same time a pair of narrow slippers.—*Sale's Alcoran*, Prelim. Disc. p. 119.

§ This well, which lies near the Kaaba, the Mahometans affirm to be the same that Hagar saw in the wilderness, when she was driven out with her son Ishmael, from the presence of Sarah, Gen. xxi. 19.

¶ Here each person performs a sacrifice, in commemoration of that which Abraham offered instead of his son Ishmael, and not Isaac, according to their tradition. Arafat also is supposed to be the High Land, or the land of Moriah, where Abraham was to offer up his son, Gen. xxii. 1, 2.

386 *Mesure de la grande Pyramide, &c.*

La porte n'est tout a fait au milieu, le cote Ouest etant plus long que celui de l'Est, d'environ 30 pieds.

La porte est elevee 45 pieds au dessus du terrain.

Hauteur perpendiculaire de la Piramide, 500 pieds.

Longueur des Cotez 670 pieds.

1<sup>er</sup>. Canal d'entree, qui va en descendant, 3 pieds, 6 pouces, en quaree.

Longueur du dit Canal, 84 pieds.

Pente du dit 35 degres.

Le Canal est termine par la sable, qu'il faut netoyer pour entrer a gauche ; en entrant est une espace devoute, rompue d'environ trois toises de diametre, pour donner communication au Canal montant.

2<sup>de</sup> Canal, qui va en montant, et tire Sud comme le premier Canal descendant, et autrefois ils s'embouchoient l'une a l'autre.

Longueur du dit Canal 96 pieds.

Largueur et Hauteur 3 pieds, 6 pouces en quaree.

Au bout du Canal montant est a droite un puits sec creuse en partie dans le Roc d'environ 27 toises de profondeur, compose de 4 boyaux, un droit, un oblique, au bout du quel est un repozoir, et encore un droit et puis un oblique, qui aboutit a du sable.

Au bout du meme Canal montant est une plateforme, sa longueur 12 pieds, largeur 3 pieds, 4 pouces. Cette plateforme s'unit a un 3<sup>me</sup> Canal de niveau.

Longuer du dit Canal 113 pieds.

Hauteur et Larguer 3.

Chambre d'en bas, Longuer 18 pieds.

Larguer 16.

Plateforme de la Chambre en dos d'ane chaque cote 10 pieds.

Hauteur des murs jusqu'au dos d'ane 11 pieds, 3 pouces.

Il y a un trou de 10 a 12 pas de profondeur dans la dite Chambre a gauche en entrant les pierres qu'on a tirez du trou sont repandues dans la Chambre ; a l'entree de ce trou paroît une Niche.

4<sup>e</sup>. Canal qui est aussi montant, sa voute presq' en dos d'ane, Longueur 136 pieds. Larguer entre les murs 6 pieds et demi. Larguer de la tranchee entre les Banquettes 3 pieds et demi.

Les deux Banquettes chacune un pied et demi de large et de haut.

Mortaises dans les Banquettes chacune un pied 8 pouces de long, 5 ou 6 pouces de large.

Leur profondeur d'environ un demi pied. Distance d'une mortaise a l'autre 3 pieds et environ un tiers. Nombre de mortaises 56, c'est a dire 28 sur chaque Banquette.

Hauteur de la voute du 4<sup>e</sup> Canal 22 pieds et demi est neuf Pierres,

Pierres, chacune de deux pieds  $\frac{1}{2}$  de haut, somees d'un plancher de la largeur de tranche inferieure.

De 9 pierres de la voute 7 seulement sont sortantes, leur sailliee est de 2 pouces  $\frac{1}{2}$ .

Au bout de 4<sup>e</sup>. Canal est un 5<sup>e</sup>. Canal de niveau, qui aboutit a une grande Chambre mortuaire. Longuer 21 pieds.—Larguer 3 pieds, 8. pouces.

Hauteur inegale, car vers le milieu il y a une espece d'Entresole avec de Canaures, les deux tiers de ce 5<sup>e</sup>. Canal sont revetu de marmor granit.

Grande Chambre ou Sale mortuaire, toute encrustee de granit, pave, plancher et murailles.—Longueur 32 pieds.—Larguer 16. Hauteur idem in 5 pierres egales. Plancher de 7 grandes pierres traversent la Sale par la larguer, et deux pierres aux deux bouts, lesquelles entrent a moitie dans le mur.

Au fonde de la Sale et a droit, a 4 pieds et 4 pouces de mur, est le Tombeau de Granit sans couvercle, d'une seule pierre. Il resonance comme une cloche. Hauteur de Tombeau 3 pieds et demi. Longueur 7. Larguer 3. Epaisseur demipied.

A droit du Tombeau dans le coin a terre on voit un trou long de trois pas, et profond d'environ 2 toises, fait apres coup.

Il y a deux trous a la muraille de la Sale proche de la Porte, l'un a droit, l'autre a gauche, d'environ deux pieds en quaree ; on ne connoit pas leur longueur, ils ont ete fait en meme tems que la Pyramide.

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## IX.

### *Remarques sur le Natron.*

LE Natron ou Nitre d'Egypte a ete connu des anciens ; il est produit dans deux Lacs, dont Pline parle avec eloge ; il les place entre les villes de Naucratre et de Memphis. Strabon pose ces deux Lacs Nitrieux dans la Prefecture Nitriotique, proche les Villes de Hermopolis et Momemphis, vers les Canaux, qui coule dans la Mareote ; toutes ces autorites se confirment par la situation presente des deux Lacs de Natron. L'un des deux Lacs Nitrieux, nomme le grand Lac, occupe un terrain de quatre ou cinq lieues de long, sur une lieue de large dans le desert de Scete ou Nitrie ; il n'est pas eloigne des monasteres de Saint Macaire, de Notre Dame de Suriens et des Grecs ; et il n'est qu'a une grande journee a l'Ouest du Nil et a deux de Memphis vers le Caire, et autant de Naucratre vers Alexandrie et la Mer.

L'autre

L'autre Lac nomme en Arabe Nehile, a trois lieues de long, sur une et demie de large ; il s'étend au pied de la montagne a l'Ouest et a douze ou quinze mille de l'ancienne Hermopolis parva, aujourd' hui Damanchour, Capitale de la Province Beheire, autrefois Nitriotique, assez pres de la Mareote, et a une journee d' Alexandrie,

Dans ces deux Lacs le Natron est couvert d'un pied ou deux d'eau ; il s'enfonce en terre jusqu' a quatre ou cinq pieds de profondeur ; on le coupe avec de longues barres de fer pointues par le bas ; ce qu'on a coupe est remplace l'annee suivante, ou quelques années apres, par un nouveau Sel Nitre, qui sort du sein de la terre. Pour entretenir sa fecondite, les Arabes ont soin de remplir les places vuides de matieres etrangeres, telles qu' elles soient, sable, boue, ossemens, cadavres d'animaux, chameaux, chevaux, anes et autres ; toutes ces matieres sont propres a se requiere, et se reduisent en effet en vrai Nitre, de sorte que les travailleurs revenant un ou deux ans apres dans les memes quartiers, qu'ils avoient epuises, y trouvent nouvelle recolte a recueillir.

Pline se trompe, quand il assure que le Nil agit dans les salines du Natron, comme le Mer dans celles du sel, c'est a dire, que la Production du Natron depend de l'eau douce, qui inonde ces Lacs ; point du tout, les deux Lacs sont inaccessible par leur situation haute et superieure aux inondations du Fleuve. Il est sur pourtant, que la pluie, la rosee, la bruine et les bruillards sont les veritables peres du Natron, qu'ils en hatent la formation dans le sein de la terre, qu'ils le multiplient et le rendent rouge ; cette couleur est le meilleure de toutes, on en voit aussi du blanc, du jaune, et du noir. \* \* \*

Outre le Nitron, on recueille dans certains quartiers des deux Lacs, du Sel ordinaire et fort blanc ; ou y trouve aussi du Sel gemme, qui vient en petits morceaux d'une figure Piramidale, c'est-adire quarree par le bas, et finissant en pointe. Ce dernier Sel ne paroît qu' au Printems.

Upon making experiments with the Natron, we find it to be an *alkali* and to occasion a strong fermentation with acids ; which will very well illustrate Prov. xxv. 20. where the *singing to a heavy heart* is finely compared to the contrariety or colluctation there is betwixt *vinegar*, נתר, *Natron* ; not *nitre*, or *saltpetre*, as we render it, which, being an acid, easily mixes with vinegar.

## X.

*The Method of making Sal Armoniac in Egypt.*

SAL ARMONIAC is made of dung, of which camels is esteemed the strongest and best. The little boys and girls run about the streets of Kairo, with baskets in their hands, picking up the dung, which they carry and sell to the keepers of the bagnios; or, if they keep it for their own burning, they afterwards sell the soot at the place where the Sal Armoniac is made. Also the villages round about Kairo, where they burn little else than dung, bring in their quota; but the best is gathered from the bagnios, where it crusts upon the wall, about half a finger's breadth. They mix it all together, and put it into large globular glasses, about the size of a peck, having a small vent like the neck of a bottle, but shorter. These glasses are thin as a wafer, but are strengthened by a treble coat of dirt, the mouths of them being luted with a piece of wet cotton. They are placed over the furnace, in a thick bed of ashes, nothing but the neck appearing, and kept there two days and a night, with a continual strong fire. The steam swells up the cotton, and forms a paste at the vent-hole, hindering thereby the salts from evaporating, which, being confined, stick to the top of the bottle, and are, upon breaking it, taken out in those large cakes, which they send to England.



## XI.

*An Account of the Weather at Alexandria in  
Egypt, in the months of January and February,  
A. D. 1639.*

JAN. 1. Faire, the wind little, and southerly.

2. Faire.

3. Faire, at night it rained a little.

4. Cloudy and rainy in the afternoon, and at night.

5. Cloudy, rainy and windy, N. W.

6. Very rainy and windy, N. W. day and all night.

7. Rainy

7. Rainy and windy. N. W. all day and night.
8. Rainy in the morning, very windy all day and night, at the latter end of the night very rainy, the wind was N. W.
9. The morning very rainy and windy, at night very rainy and windy. N. W.
10. All day very rainy and windy. N. W. The rain falls in sudden gusts, afterwards a little fair, then again cloudy and rainy. At night it rained very much, and in the morning snowed.
11. Friday, it rained, the afternoon fair, at night rainy. N. W.
12. Saturday in the morning rainy, the afternoon fair, and at Night little wind.
13. Sunday faire, a little wind. N. N. W.
14. Monday little wind S. E. faire.
15. Faire, little wind. S. E. the air full of vapours, so that although no Clouds, yet the body of the sun shined not bright.
16. Faire, little wind. S. E.
17. Faire, little wind. S. E. These four days, especially the two last, though no clouds, yet a caligo all day and night, so that the sun gave but a weak shadow, and the stars little light. This caligo or hazy weather arose partly from the rains that fell before, and partly from the usual overflowing of Nilus.
18. Friday like Thursday, or rather worse, the E. S. E. wind being great.
19. Saturday like Friday.
20. Sunday the wind N. and cloudy, night faire.
21. Monday the wind N. W. faire.
22. Tuesday faire, the wind N. W. it rained a little towards night, the wind ---
23. Wednesday fair, day and night, the wind N. W. The wind somewhat great.
24. Cloudy, at night it rained much. N. W.
25. Sometimes faire, sometimes cloudy. N. W. about 4 P. M. it rained, so likewise at night very much.
26. Saturday very windy. N. W. and often rainy.
27. ☉ In the day very windy. N. W. sometimes rainy, at night faire; no great wind but full of vapours; so that the pole-star, nor the yards could be clearly seen.
28. In the day a dusky sky all over, yet not many clouds, the sun could not be seen, so at night, in the night it rained a little, the wind east.

29. The sky full of vapours, but not so obscure as the 28. a quarter of an hour before sun set, the sun being immerst in the vapours, about the horizon seemed for a while like burning iron, or like the moon, as I have seen sometimes in an eclipse, as she grew low or half, more or less appeared, and so by degrees, till the upper edge, at last she was quite lost, though not below the horizon. This may something serve to shew the manner of these vapours above 4 P. M. the N. N. W. begun to blow, all night faire.

30. Faire, N. N. W.

31. Faire, so till 10 at night, then it grew dusky from store of vapours by the east wind.

Febr. 1. Cloudy at night, faire, sometimes cloudy, a very great N. W. wind and some rain.

2. Cloudy, faire, rainy, N. N. W. wind greate, Saturday at night . . .

3. ☉ Very windy. N. N. W. often rainy day and night, very cold.

4. Monday very windy N. N. W. day and night, often rainy, very cold.

5. Tuesday very windy and cloudy.

6. Wednesday little wind N. at night obscure.

7. Thursday obscure and dusky, little wind.

8. Faire, little wind, at night the wind northerly, and it rained much.

9. Saturday morning rainy, afternoon fair, wind E. at night.

10. Very faire day and night, wind N.

11. Faire, rainy. N. W.

12. Faire day and night.

13. }

14. }

15. }

16. }

Very faire.

} little wind northerly.

17. I saw 2 spots in the sun.

18. I went to *Cairo*.

19. Very faire.

20. Faire and obscure.

21. Obscure, at night it rained much; being at *Shimoon*, a great village, some 50 miles from *Cairo*, on the outside of the river for fear of rogues; and there I saw boats of leather, and 2 men sailing upon 225 pots.

*An Account of the same, A. D. 1633.*

The merid. altitude of the sunne taken by my brasse quadrant of 7 feet, and sometimes by the brasse sextans of 4 feet, without respect to refraction or parallax.

Decem. 3d. Having well rectified my instruments.

	Quadr. 35	208
4. St. Vet. Tuesday the observat. very good.	{ Quadr. 35	300
	{ Sext. 35	101
		52

5. Observat. good.	{ Quadr. 35	100
	{ Sext. 35	177
		47

6. Observat. good.	{ Quadr. 35	100
	{ Sext. 35	163
		43

7. Observat. good.	$\frac{23.27.}{35.30.}$   $\frac{1}{11}$ { Quadr. 35	100
		{ Sext. 35
		151
		41

8. (3 or 4 days past it was windy)	Qu. 35	100
		142

9. Cloudy.

10. Cloudy, at night windy and rainy.	Qu. 35	124
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11. It was windy, cloudy and rainy, I obs. well in the breaking up of a clowd.

12. Cloudy and rainy.

13. Cloudy.

14. Very windy, in the morning it rained much.	Qu. 35.	136
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15. Cloudy.

16. Sunday the observation good, it was very clear and no wind.	Qu. 35.	$\frac{1}{2}$
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17. Cloudy and windy.

18. Tuesday no wind, the obs. good.	Qu. 35.	128.
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19. The obs. good, no wind, no clowdes.

20. }

21. } Cloudy or rainy these 3 days.

22. }

23. The obs. good, at 3 o'clock, and in the night it rained much, the wind westerly.	Qu. 35.	285
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24. 25. 26. 27. 28. 29. It rained exceedingly day and night, with great winds from the W. N. W.

The



The observations which were hitherto made of the sunne by the brasse quadrant, were by taking of the shadow on the top of the ruler by the other sight or top at the end. These which follow, were taken by letting the shadow of the cylindar fall upon one of the faces, which is thus marked  $\overline{\text{m}}$ .

Dec. 31. St. Vet.	Qu. 36.	<u>266</u>
the wind northerly, the obs. good.		
Jan. 2. St. Vet.	Qu. 37.	<u>73</u>
3. St. Vet.	Qu. 37.	<u>300</u>
4. St. Vet. (58. 55.)	Qu. 37.	<u>126</u> <u>165</u>
Jan. 25. St. Vet. the quadrant with the ruler,		
the cylindar being broken, the obs. good. N. W.	Qu. 42.	<u>206</u>
Jan. 26. Cloudy.	Qu. 43.	<u>300</u>
27. Sund. obs. good N. W.	Qu. 43.	85.
28. Obscure. Wind E.		

## XII.

*Nummi nonnulli ab auctore in Africa collecti, quique in ea regione cusi fuisse videntur.*

### 1. REX IVBA \*.

Caput Jubæ, diadematum.

ΚΛΕΟΠΑΤΡΑ † ΒΑΣΙΛΙΣΣΑ.

Crocodilus ‡.

VOL. II.

3 D

2. D.

\* Juba, quem exhibet hic nummus, secundus fuit istius nominis, qui uxorem duxit Cleopatram †, cognomine Selenen, Antonii triumviri et Cleopatrz Ægypti reginz filiam. Filium habuit Ptolemæum, regum Numidarum ultimum, qui a Caligula interfectus fuit. Porro Juba hic noster fuit Jubæ I. filius, Hiempsalis nepos, Gaudæ pronepos, Masinisæ pronepotis nepos. Ita enim se habet series illa regum Numidarum, quam in R. Reineccio (de Fam. Tab. 43. p 329) interruptam videmus; ut fidem facit inscriptio hæc sequens antiqua, quam in arce Carthaginis Novæ apud Hispaniam invenit mecumque communicavit V. R. Pa. Ximenes.

REGI IVBAE REGIS  
IVBAE FILIO REGIS  
IEMPSALIS N. REGIS GAUD.  
PRONEPOTIS MASINISAE  
PRONEPOTIS NEPOTI  
TT VIR QVINQ. PATRONO  
COLONI.

‡ Crocodilus, utpote Niloticum animal, symbolum fuit Ægypti, unde Cleopatra duxit originem.

## 2. D. N. IVSTINIANVS P. P. AVG \*.

Caput Justiniani diadematum.



## 3. KARTAGO, in epigraphæ.

Miles stat, sinistra hastam tenens.

Caput Equi, decursorii : et in Exerg. XXI.

Nummi sequentes nec una nec altera parte inscripti sunt : quorum decem priores exhibent,

4. Caput Cereris, ornatum † spicis ; interdum etiam cornu bubulo || ; et inauribus.

Equum § stantem, cum cervice erecto. Ad pedem tria puncta, forma triangulari posita.

5. AL. Equum stantem, cum annulo.

6. AL. Equum stantem, cervice reflexo.

7. AL. Equum stantem, cervice reflexo cum Lunula ¶.

8. AL. Equum currentem.

9. AL.

\* Nummus hic describitur a Mediobarba de Imp. Rom. Numism, p. 564. edit. Milan. 1683.

† Belisarius forsân, qui, devicto Gillimere, Carthaginem imperio Romano restituit. Numerus XXI. et Num. XIV. in priori nummo, annos Regni Justiniani designant, viz. A. D. 547. 540. Vid. Mediobarb. ut supra.

‡ Ceres enim πολυσπερος dicitur ; unde Horatius Carm. Secul.

— — — spicea donat  
Ceregem corona.

Quæque etiam Dea frugifera est, ideoque sæpius cernitur in nummis Africæ, Siciliæ, Egypti, aliarumque regionum, quæ olim, propter tritici et framenti fertilitatem, celeberrimæ fuerunt.

§ Ceres etiam, quæ eadem cum Iside est, bovinis cornibus pingitur Ita enim Herodotus, Eut. § 41. Το γὰρ τῆς Ἰσίδος ἀγάλμα ἰσὶν γυναικὴ ἰσὶ, ΒΟΥΚΕΡΟΝ ἔστι. κατακτὶς Ἑλλήνις τῇ ἰσὶ γράφουσι. Vid. Obs. supra, p. 173.

¶ Equus, utpote animal potens et bellicosus, a Lybis forsân imprimis domitum, insigne fuit Mauritanicæ, Numidicæ, et Carthaginiensium regionis. Numidæ enim ab antiquissimis temporibus, ob equitationem et in equis educandis solertiam, palmarum cæteris gentibus præripuerunt. Puncta forte pondus vel valorem indicant ; ut annulus in sequenti. Vel si nomen in una aut altera Carthaginiensium colonia, apud Siciliam, i. e. Trinacriam, cusus fuit, per puncta totidem istius insulæ promontoria denotari possint.

¶ Lunula sive crescens symbolum fuit Isidis, i. e. Cereris, Deæ frugiferæ. Vid. Not. &amp; Obs. ut supra.





9. AL. Equum stantem cum Palma \*.
10. AL. Equum desultorium, cervice reflexo, pedem dextrum elevantem.
11. AL. Equum, cervice reflexo, pedem dextrum elevantem.
12. AL. Caput Equi †.
13. AL. Caput Equi, cum unciae nota.
14. Caput diadematum, promissa barba.
- † Equus currens, cum unciae nota. Cum ♪ vid. apud Collect. Com. Pembroch.
15. Caput diadematum, promissa barba, cincinnis in orbem tortis seu calamistratis.
- Equus currens, cum Palmæ ramulo ||.
16. Idem : quod Jubæ majoris, ob vultus similitudinem, esse videtur.
- Equus gradiens, cum stella §.

17. Ca-

\* Africa, (præcipue interiores ejus partes), æque dactylis abundat, ac Ægyptus, Idume, Babylon, &c. ideoque Palmam pro insigni suo sive symbolo æquo jure vindicare possit. Vid. Obs. vol. i. p. 117. 174.

† Hoc symbolum referre possumus ad caput equi inventum in jactis Carthaginis fundamentis.—In primis fundamentis caput bubulum inventum est; quod auspiciū quidem fructuosæ terræ, sed laboriosæ, perpetuoque servæ urbis fuit, propter quod in alium locum urbs translata. Ibi quoque equi caput repertum, bellicosum potentemque populum futurum significans, urbi auspicatam sedem dedit. Just. l. xviii. 5. Sic etiam Virgilius Æn. l. 445.

Lucus in urbe fuit media, lætissimus umbra;  
Quo primum jactati undis et turbine Pœni  
Effodere loco signum, quod regia Juno  
Monstrarat, caput acris equi : sic nam fore bello  
Egregiam et facilem victu per secula gentem.

‡ Nummus hic forsan respicit duos fratres, aut cognatos, vel patrem et filium, qui in imperio fuerant socii, ut sæpius contingebat apud Numidas, Romanos, aliasque gentes.

|| Palmæ ramulus vel victoriam quandam ab inimico portatam, vel Jubam minorem (modo nummus hic Jubæ senioris est) designare potest; Artemidorus quippe auctor est (Oneir. l. i. c. lxxix) Principum liberos per ramos Palmarum designari. Unde certe haud male collegisse videtur Tristavius, signatos in quodam Constantii nummo tres Palmæ ramos denotare tres magni Constantini filios. Spanh. De Usu, &c. Numism. Diss. vi. p. 336.

§ Per stellam, virtus forsan solis in frugibus producendis viribusque prolificis et bellicosis equis addendis denotetur. Quidni etiam Hæperus esse possit? Ut enim hæc pastoris stella est, Numidis certe, utpote vitam pastorem agentibus, semper grata esset et veneranda. Stella, in quodam Battiadorum nummo, Apollinem denotabat in eo tractu Sacerdotem, secundum Begerum (Theat. Brand. vol. i. p. 518.) vel regem e Ludis equestribus victorem reverentem, stella seu sole duce, secundum Spanhemium, Diss. vi. p. 300.

17. Caput Jovis Ammonis \*.

Elephas †.

18. Caput Herculis ‡, pelle leonino amictum.

Leo gradiens ||.

19. Palma, cum dactylis.

Pegasus §.

20. AL. Equus stans, cervice erecto.

Ex ære omnes, præter quartum et quintum, quorum hic ex argento, alter ex auro conficitur.

The

\* In Libya, templum et oraculum celeberrimum, olim Jovi Ammoni conditum fuit: Ammoni illi nempe, qui idem esse perhibetur cum Chamo, cui Ægyptii et Libyes debent originem.

† Tempore, quo cusus fuit hic nummus, elephantes frequentes errabant in septentrionalibus Africæ partibus, ut patet ex Plin. N. H. l. v. c. 1. Ita enim poeta, de Africa loquens:

Et vastos elephantas habet, sævosque leones  
In pænas sæcunda suas parit horrida Tellus.

Manil. l. iv.

‡ Hercules nempe Libycus, cujus fama, propter certamen cum Antæo, (Plin. N. H. l. v. c. 1) Aram apud Lixon, (ibid. D) Specus in promontorio Ampelusio dicto (Pomp. Mela, c. v) Columnasque (ibid.) semper fuit inter Afros celeberrima

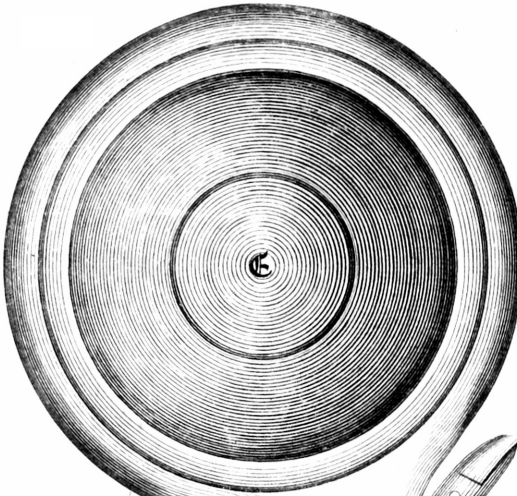
|| Per leonem hic exhibitum, intelligi potest vel Africæ symbolum, quæ apoeta nuncupatur,

- - - Leonum  
Arida nutrix.

Vel Leo ab Hercule interfectus.

§ Nummus hic etiam inter Africanos numerandus est, licet altera parte pegasum, Corinthiorum symbolum, exhibeat. Palma quippe hic expressa racemos suos profert propendentes, utpote dactylis onustos, quæ apud Corinthum, ob regionis frigiditatem, nulla alia esse possit quam sterilis. Præterea, ut pegasus nihil aliud sit nisi *celer equus*, tale insigne optime Africæ conveniet, ob celerum nempe equorum in ea terrarum parte proventum. Vid. Trist. Comment. tom. I. p. 89. et Spanheim. Dissert. v. p. 277.

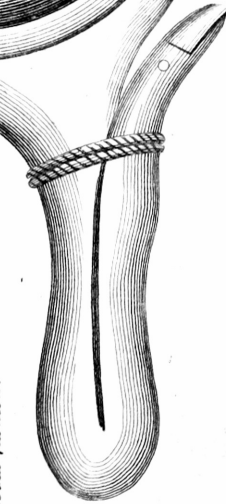




An Egyptian Center of a beautiful Slate like Stone with the Handle imitating the Leg of a camel tied up in the manner used by the Arabs to this day to prevent that creature from straying.



A cinopse of an almost transparent Alabaster 17 inches long and 6 in diameter with the Head of Isis Veiled. The Vase is carried in procession to denote the Divinity of Water were probably made in this fashion.



Two Egyptian Pendants.

Two smaller Cinopuses which with the larger one come from Sakara.









PL. III.



These Plates marked I. II. III. IV. were designed by the Author to have been omitted; but as they will be esteemed of importance by many, and an ornament by all, it has been thought proper to insert them here, with the explanation of the three first, in the words of the author; as they followed at Sect. II. *supra*, p. 213. The fourth, which is Peutingér's Table, will be of use to the learned who shall compare it with the *Itinerary*, as Gerhard Vossius, *de Scient. Mathem.* advises, & Fabricius Biblioth. *Lat. voce Tabula*, and as this author has sometimes done. See vol. i. p. 198. vol. ii. p. 26. *et alibi*.

THE greatest part of the little images that are sold in Egypt, are commonly reported to have been lodged in the breasts of mummies. What may favour this opinion is, that the people of Sakara are the chief venders of these antiquities at present; of whom likewise I purchased the vase  $\text{B}$ , which was probably an Egyptian censer, being of a beautiful slate-like stone, with the handle very artfully contrived to imitate the leg of a camel, tied up in the same fashion the Arabs use to this day to prevent those creatures from straying away.  $\text{F}$   $\text{F}$  are two pendants of the like materials, and from the same place. Of this kind perhaps were the (λίθινα χυλῖα) stones, which they suspended upon the ears of their sacred crocodiles\*. The *Canopus*, with two others †, in the possession of Dr Mead, (now of Mr Walpole) were likewise from Sakara. This of mine, which is of an almost transparent alabaster, is seventeen inches long, and six in diameter; having a scroll of sacred characters painted upon the breast, and the head of Isis, veiled, for the *Operculum*. The vessels ‡, that were carried about in their processions, either to denote the great blessing of water, or that water, the humid principle, was the beginning of all things, may be supposed to have been of this fashion, or rather, as the *Canopuses* usually are, somewhat more turgid. In the famous contest also (Plate I.) betwixt the Chaldeans and Egyptians, concerning the strength and power of their respective deities, *Fire* and *Water*, the latter was personated by a *Canopus*; the story whereof is humorously told by Suidas ||.

The

\* *Αρτηματα τε λίθινα χυλῖα* (forsitan) *καὶ χυρσοὶ ἐς τὰ ὠτα* (τε κροκοδείλων ἐμβνῆτες, &c. Herod. *Eut.* § 69

† These are figured by Mr Gordon, Tab. xviii. whereof the first is of baked earth, the other of alabaster.

‡ Quintus auream vannum aureis congestam ramulis; et alius ferebat *Ampboram*. Apul. Met. l. ii. p. 264.

|| Suid. in voce *Κανώπης*.

The *Icunculae* here represented, were intended, in all probability, to be so many of their *Lares* or *Amulets* \*; whereof the first, A, (Plate II. III.) is an Egyptian priest with his head shaven, and a scroll of Hieroglyphics upon his knees. B is Osiris, with his *Tutulus* a, *Flagellum* b, and hook c. C, is the same deity (*ἱερακομορφος*) with the hawk's head; having been formerly enamelled upon the breast, and holding either a palm branch, or a feather, which seems likewise to have been enamelled. D is the horned Isis, or *Isis leucosides*. In her lap she carries her son Orus, E; the same with F, the *Sigion*, or *god of silence*, who is accordingly seen with his finger upon his mouth, and known by the name of Harpocrates. G is another figure also of Harpocrates, in the same sitting posture that is used to this day by the eastern nations. H (Plate III.) is supposed to be Orus †, i. e. the earth, turgid with the variety of things which it is ready to produce. I, (Plate II.) provided the turn of the body and the Pileus do not suppose it to have originally belonged to

\* Inter amuleta Ægyptia nil erat communius Harpocrate, Horo, Apide, Osiride et Iside, Canopo. quorum primus Cornucopia instructus sub forma pueri nudi digito silentia suadente conspiciebatur; alter ibidem sub forma pueri, sed fascibus, aut reticulato amictu involutus. tertius sub forma bovini capitis; quartus sub variis formis: nunc *ἱερακομορφος*, nunc *κυνομορφος*, modo leoniformis; quinta sub mulieris habitu, scutica et reti instructa, aliisque instrumentis. Per Harpocratis amuletum, arcanorum per varias divinationum species se conscios futuros sperabant, religiose gestatum; gestatum autem fuisse, *ansula* satis demonstrant. Per Hori amuletum naturae mundanae notitiam se habituros putabant: per Apidis amuletum, fecunditatem; per Osiridis influxus superni abundantiam; per Isidis, quæ ad terram et Nilum pertinent, bonorum omnium temporalium ubertatem se consecuturos sperabant. Per Accipitrem, se consecuturos sperabant claritatem luminis tum oculorum, tum intellectus; per Bovem, domesticæ substantiæ amplitudinem; per Canem scientiarum et artium notitiam; per Cynocephalum et Ælurum lunaris numinis attractum. \* Erat ex insectis quoque Scabæus, certis et appropriatis lapidibus incisus, potentissimum amuletum et passim usurpatum, ad solaris numinis attractum, contra omnes tum corporis, tum animi morbos institutum. Kirch. Gymn. Hierogl. Clas. xi. p. 447-8.

† Horus semper sub puerili forma referebatur, et mystice, Plutarcho teste, nihil aliud est, quam sensibilis mundi machina, quam sol seu Osiris per Scabæum (x) indicatus, continua solarium numinum per binos accipitres (λ) et terrestrium geniorum, per Penates (μ) lateribus assistentes indicatorum, ministerio, summa sapientia gubernat et moderatur. Pueri forma pingitur, quia mundus generabilium rerum innovatione continuo veluti rejuvenescit: tumido corpore (ι) pingitur, quia genitalium rerum foetura et *πανεπισμία* perpetuo turget: sub utroque pede crocodilum (ξ) calcat, i. e. Heboniam seu typhoniam malignitatem mundo adeo perniciosam ne invalescat, cohibet; scuticæque (σ) i. e. virtutis suae efficacia in officio continet. In postica parte per figuram Δ, Isis, seu luna exprimitur, quæ cornua et velum, quibus semper, exhibetur, ostendunt; ubere turget, quia mater omnium inventionum est, et Hori a Typhone extincti vindicatrix et resuscitatrix, dum mundum siccitate et adustiva quadam vi oppressum, humido suo influxu, per radios apte indicato, temperiem et vitam revocat. Kirch. ibid. p. 449.

to some other nation and worship), may perhaps, from its posture, be the Egyptian *Crepitus* \*: as, among others of a lesser size, *K* is the *Anubis*; *L*, *M*, the *Apis*; *N*, the cat; *O*, the *Cynocephalus*; *P*, the hawk; *Q*, *R*, the frog; *S*, the beetle; *T*, the *Phallus Oculatus* †; *U*, a *Niloscopæ*; *X*, a pyramid; and *Y*, a *Plectrum*.

Of these *Iduncule*, the last is of alabaster; *Q* is of brown marble, spotted with yellow; *A*, *B*, *C*, *D*, *E*, *F*, *G*, *I*, *K*, *L*, *M*, *N*, *P*, *R*, are of copper, and the rest of baked earth. All of them, except *A*, *G*, *I*, *O*, *P*, *R*, are either bored through, or else have little rings fixed to them, whereby we may conjecture that they were suspended upon the necks of their votaries. Yet the spindles or pivots, *a*, *a*, *a*, *a*, of the images, *A*, *B*, *C*, *D*, may give us room to suspect, that they in particular were either to be erected in some convenient place of their houses as objects of their worship, or else that they were to be fixed upon their symbolical rods and sceptres, and carried about in that manner in their solemn processions.

As nothing has been said in this edition, of the *CHRYSANTHINE MAP*, inserted above, we shall subjoin the account of it in the author's words, as they stood in the first edition.

THE Reverend and ingenious Mr Costard obliged me with a sight of the *Chrysanthine map*, as it has been called, of Egypt, which is projected in a large scale, with the names of places in Greek and Arabic. In this, the *Tiah beni Israel*, (*Trav. supra*, p. 95.) which is likewise the name in Albufeda, is *Terick beni Israel*, words of the same force; which *Tiah*, or *Terick*, lies all the way in this map, through two ranges of mountains, from *Ραμμεως* (Corruptly given for *Ραμμεση*, or *Ραμμεως*, *Exod. xii. 37. Numb. xxxiii. 3.*) to the Red Sea. The author of the *Description of the East*, as far at least as I understand his *librorum descriptiones*, &c. gives little credit to this map. 'Hæc charta' (says he, *Dissert. Geogr. p. 286.*) *descripta est signis tam Ar-*  
bicus

\* Nec Serapidem magis quam Strepitus, per pudenda corporis expressos, contremiscunt (*Ægyptii*) Minut. Felix. § 28. Crepitus ventris inflati, quæ Pelusiaca religio est. S. Hieron. in *Isai. l. xiii c. xlv.*

† Osirin per brachium extensum, beneficentiæ et liberalitatis notam, multis locis ostendimus; atque adeo Phallus hic oculatus [cum brachio occulte ex eo emergente] nihil aliud innuit, quam providentiam beneficam divini Osiridis, in fecunda generatione elucescentem: qua occulta et insensibili operatione omnia fecundat. eratque potissimum apud Ægyptios amuletum, &c. Kirch. *OEdip. Ægypt. Synt. xiii. p. 41.*

‘bicus quam Græcis, in usum (ut titulus præ se fert) Chrysanthi  
 ‘Patriarchæ Hierosolymitani, anno Domini 1722. Delineator  
 ‘(quisquis fuerit ille) videtur se totum composuisse ad librorum  
 ‘descriptiones, non oculorum fidem in locis perlustrandis acutus;  
 ‘inde adeo cautius illius vestigiis inhærendum censui.’ Whereas,  
 I must beg leave to differ from this gentleman, in taking it to be  
 a valuable chart, and which deserves well to be published. Nei-  
 ther does it appear from the title, as is here pretended, that it was  
 of no older date than 1722, because ΠΕΡΙΓΡΑΦΗ ΑΙΓΥΠΤΟΥ,  
 &c. ΠΡΟΣΦΕΡΟΜΕΝΗ ΤΩ, &c. ΧΡΥΣΑΝΘΩ, &c. as the title  
 runs, may denote nothing more than that this particular copy  
 (not the original) was (*προσφερομένη*) offered, or, in our style, de-  
 dicated to, and not properly made for Chrysanthus, &c. in such a  
 year. ☞ I have inserted an extract from this, No. 111. in  
 a much smaller scale, as far as it relates to this controversy.

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*THE END.*





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